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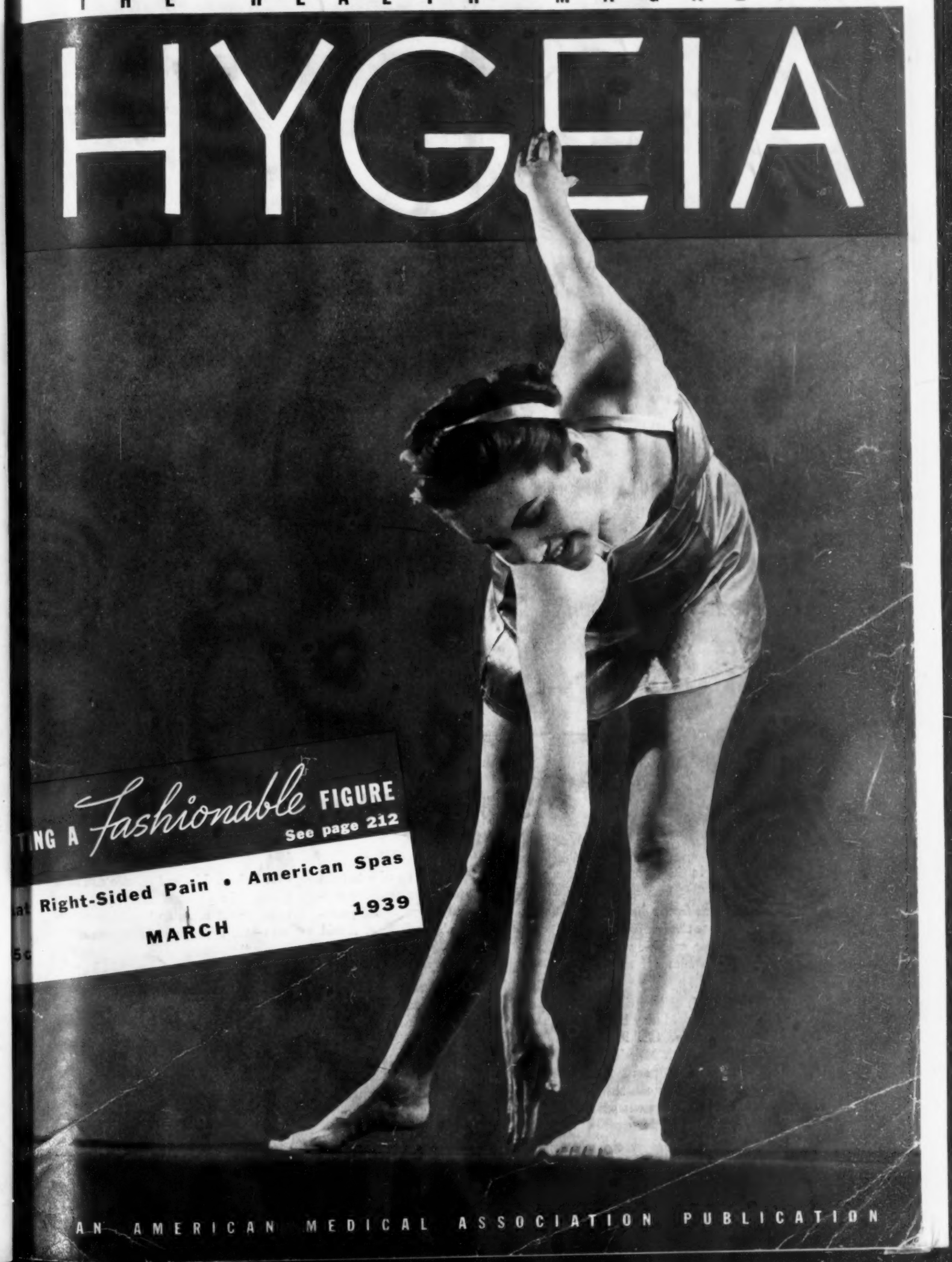
THE HEALTH MAGAZINE

HYGEIA



TING A *Fashionable* FIGURE
See page 212

Right-Sided Pain • American Spas

MARCH 1939

AN AMERICAN MEDICAL ASSOCIATION PUBLICATION

STORM WARNING FOR FEBRUARY: RISING MERCURY

THE YOUNGSTER in the picture isn't terribly sick.

He has come home from school with signs of nothing more than an ordinary cold. But his mother, sensible woman that she is, packs him off to bed at once.

For she knows that, at this time of year particularly, *any* cold may be the threshold of pneumonia. She knows that February shares with March the dubious honor of being a "pneumonia month;" that, together, they constitute the season of the year when pneumonia is most prevalent and most dangerous.

Throughout the next six or eight weeks especially, it will be wise to take every possible precaution against pneumonia. Get plenty of rest—for pneumonia's greatest ally is fatigue. Avoid any over-exposure, particularly to extreme cold and dampness.

But above all, if anyone in your family has a cold and his or her temperature rises above normal, don't delay! Call your physician at once. Watch out, too, for chills, pain in the side or chest, and a cough. They, also, are danger signals that should be heeded promptly.

If your doctor is called at once, there is less to fear from pneumonia than ever before. Medical science can offer pneumonia patients more help—can bring about more and quicker recoveries—than in any previous "pneumonia season."

But the pneumonia germ works fast, and every hour counts. If your doctor's treatment is to be most effective, he *must* be called early.

PARKE, DAVIS & COMPANY
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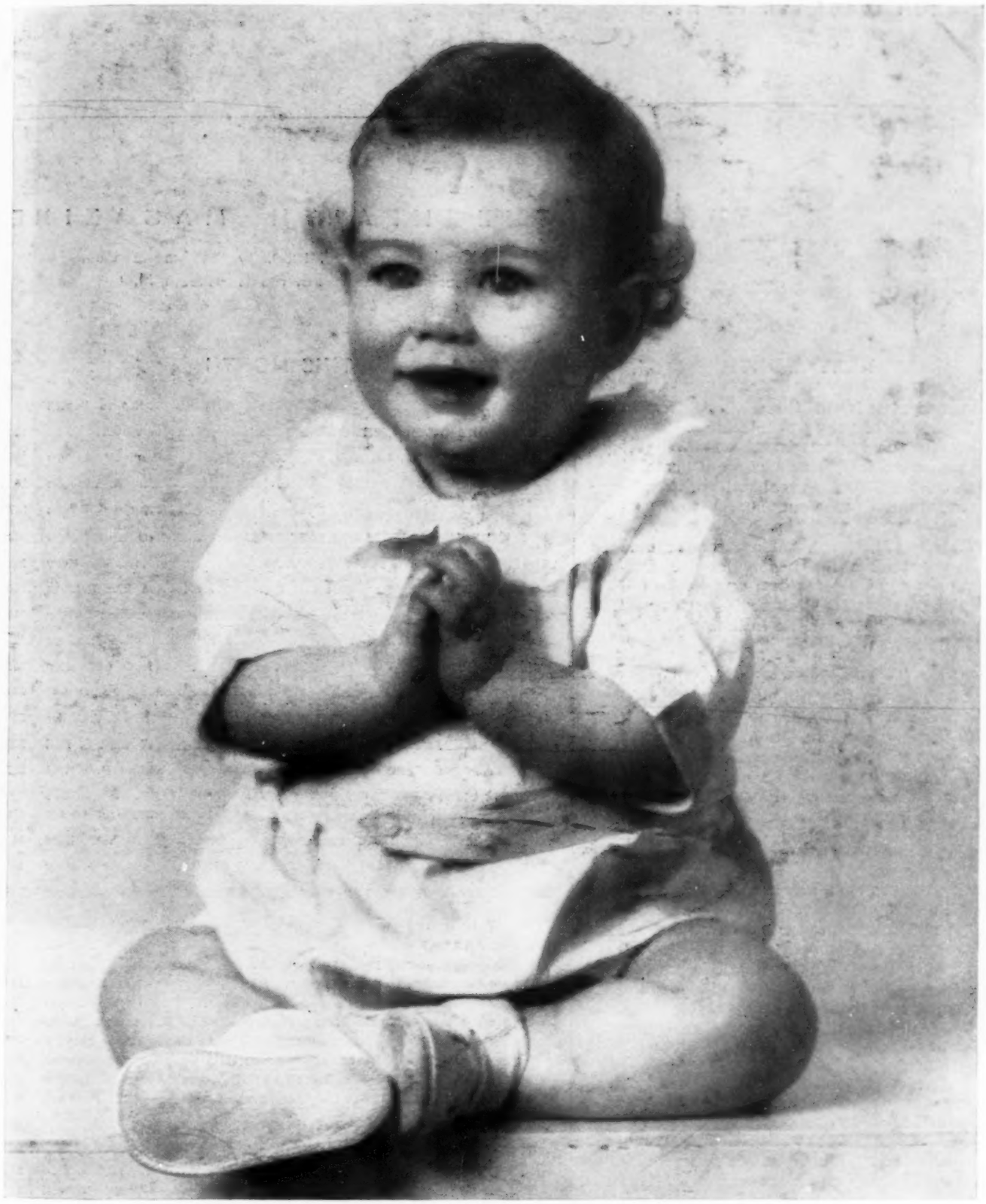
SEE YOUR DOCTOR



BABIES SUPERVISED BY PHYSICIANS ARE BETTER BABIES

So rapid has been the progress of modern medicine that many of the so-called "diseases of childhood" that were looked upon as "normal" only a generation or two ago are now either banished or preventable. Today, only part of the physician's work is the treatment of sick babies. More and more we gladly take our babies to the doctor to keep them well and to guide them through a healthy, happy, normal childhood.

5

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MARCH 1939 Vol. 17 No. 3

HYGEIA

THE HEALTH MAGAZINE

Published and copyrighted, 1939, by the American Medical Association. Edited by Morris Fishbein, M.D.

NEXT MONTH

TUBERCULOSIS is still the greatest threat to the health of young people in this country, for tuberculosis is not whipped yet! Despite its decline as a cause of death, it still takes 75,000 annual toll and handicaps the lives of about 700,000 other persons—largely young people. *Edgar A. Thacker, M.D.*, medical adviser for men and Associate in Hygiene at the University of Illinois, is in a position to tell of this scourge. "Tuberculosis Control" is the title of his article in the April issue of HYGEIA.

"LUBB-DUPP, LUBB-DUPP"—that is what the doctor hears when he listens to your heartbeats, if they are average. But if he hears "lubshshsh-dupp," a swishing sound, that tells him you have a "murmur." And what does a murmur mean? Heart disease? In all probability, NO! *Ernst P. Boas, M.D.*, explains the difference between good and bad heart symptoms in "False Alarms in Heart Disease."

"IT HAS BEEN SAID that the diabetic walks 'a tight rope of life.'" And it is a rope "of taut nervous tissue as well," declares *Ione Leonard*, student at Iowa State College at Ames. Why do diabetic patients as a group have such extreme heights and depths of moods? she asks, herself a diabetic. Glandular imbalance is the interesting theory of her article, "A Diabetic's Disposition."

RURAL COMMUNITY HOSPITALS should have farm scenes or country landscapes painted on their walls if they would soothe their patients' minds and provide a setting for rapid recovery. Psychopathic hospitals need murals with special psychologic significance if they too would hasten their patients' mental recovery. *Ellen P. O'Bryan* tells of the work the WPA federal art project is doing along these lines in "Art and Medical Science."

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HYGEIA, The Health Magazine, is published monthly by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. Yearly subscription price, $2.50; for foreign postage add 75 cents. Single copies, 25 cents. Volume 17, Number 3. Entered as second-class matter March 21, 1923, at the postoffice at Chicago, Ill., under the Acts of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1,103 Act of October 3, 1917, authorized March 21, 1923.
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Nine months old—developing beautifully....

"Give Ann good cod liver oil regularly," was the doctor's sound advice. That was when she was only six weeks old. She's been getting it ever since . . . *every day in fact!*

she's building good general resistance....

Besides giving your baby Vitamin D to help build sound bones and teeth, Squibb's Cod Liver Oil supplies *Vitamin A*. This aids in promoting growth and *in establishing resistance of the body to infections in general* . . . if baby's regular diet does not supply enough, and body reserves of this factor are exhausted.

straight legs..... soon he'll be walking.....

He will need legs that are straight and strong! Sunshine provides your baby with some of the Vitamin D he must have in order to build them. But *not enough* these dreary winter months! Be sure to give him a dependable source daily—Squibb's Cod Liver Oil.

Vitamins guarded! You get your money's worth! When you insist on Squibb's Cod Liver Oil you get the full value of Vitamins A and D that you are paying for. *One* teaspoonful of Squibb's provides as many units of Vitamins A and D as *three* spoonfuls of a cod liver oil which just complies with the minimum requirements of the U.S. Pharmacopeia. It's an economy to buy Squibb's! Now at any good drug store. *The priceless ingredient of every product is the honor and integrity of its maker.*

SQUIBB'S Cod-Liver Oil

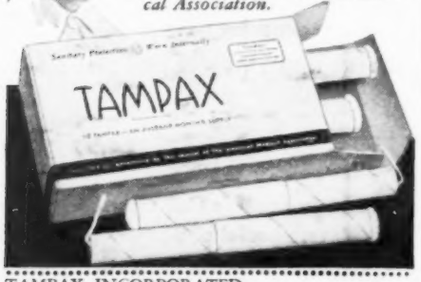
EVERY day more women are discovering Tampax, and spreading the news among their friends. This modern *civilized* sanitary protection is rapidly sweeping the country. Already over *one hundred million* Tampax have been sold to outdoor women, college students, housewives and office workers. It is really a necessity for any woman who *must* keep busy and active at all times of the month.

Tampax is unlike any other product. Of compressed surgical absorbent cotton, it is hygienically sealed in *individual containers*, so neat and ingenious your hands never touch the Tampax at all! No belts or pins are used. No bulk. No odor. Tampax is *worn internally*.

Tampax is comfortable, efficient and very compact. No disposal problem. At drug stores and notion counters. Introductory size 20¢, average month's supply, 35¢. As much as 25% saved by purchasing large economy package of 40.

"DESIGNED BY A DOCTOR—WORN INTERNALLY"

Accepted for advertising by the Journal of the American Medical Association.



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LETTERS FROM *Readers*

Regarding "The Care of Baby's Skin"

To the Editor:

There are several schools of thought regarding the care of the baby's skin soon after birth: First, To leave the baby's skin alone; second, to remove the protective film with oil; third, to bathe the baby after the second or third day with soap and warm water.

Regarding this last procedure in handling the newborn baby I refer to the second paragraph in the article by Beulah France in HYGEIA, December 1938, page 1108. When one teaches the care of infants to a great number of practical nurses, especially those dealing with rural population, one should be most careful in their instructions, and I cannot adhere to the method prescribed in this article. It may be all right in steam heated houses under the supervision of a trained nurse; but I seriously doubt the wisdom for the general public.

WILLIAM WESTON JR., M.D.
Columbia, S. C.

▲

"Mouth" Cripples

To the Editor:

I have just read with a great deal of interest, the article "Give the Cripple a Chance," in the current number of HYGEIA. There can be no question but that it is significant of our type of civilization that we assume as a quasi public function the care of our physically and mentally afflicted rather than toss them over a cliff as the ancient Spartans and some others did.

However, there is a vast group of cripples whom the Spartans evidently did not think it worth while to destroy because they had not thought of them as cripples, and whom we give little consideration in any helpful way, for the same reason. I refer, of course, to the millions of children who are beginning to become diseased and crippled by the time they are 3, and who by the time they have reached the age of 6 years are well on their way to lifetime deformity and malformation of the dentures, the face and the respiratory passages, all because we have failed to include them in our usual definition of "cripples."

The Illustrated Encyclopaedic Medical Dictionary defines a cripple as follows: "An individual who is wholly or partially disabled as to some natural movement or function by disease, injury, or malformation."

If parents of these children thought of them as cripples, which by the above definition they really are, and if they knew that there is something which can be done about it, more children would be receiving orthodontic treatment, more dentists would be qualifying themselves by graduate study to handle these cases, and it would eventually become unnecessary for children to travel fifty or a hundred miles to get this service, as many now do.

The thought occurs to me that more parents ought to know about these cripples and what can and should be done for them.

LANDIS H. WIRT, D.D.S.
South Bend, Indiana

▲

No "Scholarships" Available

To the Editor:

The HYGEIA magazine which you publish is excellent. It prints valuable information very clearly and

is easily understood by the average intellect.

We are a group of about twenty young people living cooperatively on a 140 acre farm in Cream Ridge, N. J. We are learning farming, (vegetable gardening, dairy, poultry, etc.) both theoretically and practically. However, we do not believe in the old statement: "dumb as a farmer." Most of the people here are high school and college graduates and do not want to lose their literary contacts.

We receive a good number of publications here, but as our financial means at present are so very limited we must depend on the good will of these publishers to give us a year's subscription free, so that we may not enclose ourselves in our own select community and lose contact with the happenings and events in the wide world around us. In such a manner do we receive the Philadelphia *Record* and *The Nation*, and with deep appreciation do we read this newspaper and weekly periodical.

We feel that HYGEIA is very badly needed on our book shelves. I say especially here, because we number so many, all coming from different sections of the country where the climates differ, environments vary and where health problems are apt to become the main question to solve.

Therefore, if you could put us on your mailing list as "scholarships" until such a time as when we can subscribe ourselves, we would be much obliged.

JEMIMAH BENENSON

Cream Ridge, N. J.

▲

Infant's Photo

To the Editor:

I enjoy HYGEIA greatly. The photo of the infant on page 3 in the January issue is adorable—makes me look with more anxiety toward having one.

I was irritated by the spacious article (of 10 pages) on "Reducing Diets." It took much too much space and ultimately is of little use. This fact is brought out at the very beginning of the article by its author saying, "For safe reduction, consult your doctor first and last."

EDYTHE DIAMANT, B.S.

New York City

These nine photos, taken with a super-speed camera, show progressive stages in the course of one blink.

They stared at a blinking girl

AND

FOUND A NEW KEY TO HUMAN COMFORT

G-E Light Meter

OF all the strange tests and experiments carried on at the General Electric Lighting Research Laboratory at Nela Park, Cleveland, none has turned out to be more important than the "Blink Test."

The test itself is almost absurdly simple. It consists merely of recording the number of times a person blinks under various kinds of light. But it shows that nearly all the hidden discomforts caused by poor seeing conditions are revealed by the "rate of blink!"

Today, most electric service companies will gladly measure the light in your home or office with a light meter and show you how to get better lighting for faster, easier seeing. Ask them to send a trained lighting adviser to measure your lighting. The General Electric Company, Nela Park, Cleveland, Ohio.

Thanks to years of scientific research, good light costs the user less today than ever before. The G-E bulbs of 1939 give even more light than those of last year.

EDISON MAZDA LAMPS

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Dear Friend:

HYGEIA is the monthly magazine published by the American Medical Association to give medical information to those who are not physicians.

Thus far it has not discussed birth control in its columns either as a leading article or in the "Question and Answer" Department. It is possible that this is due to failure to appreciate the importance of the problem to readers of the magazine.

It is therefore suggested that you write to the Editor of HYGEIA, 535 North Dearborn Street, Chicago, Illinois.

Either

(1) Inquire about the safety or effectiveness of one of the proprietary brands of contraceptive materials about which you wish information (see HYGEIA's directions below);

or

(2) Suggest that an article on the general subject of birth control would be of great interest to you and the lay public.

HYGEIA has an excellent opportunity to safeguard its readers from the possibly disastrous results of false reliance upon products for which misleading claims are made to the public.

Thank you for your help in encouraging organized medicine to assume its full responsibilities in this field of public health.

Sincerely yours,

COMMITTEE ON PUBLIC PROGRESS

Margaret Sanger

Margaret Sanger

From HYGEIA's
Question and Answer
Page

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

HYGEIA and BIRTH CONTROL

DURING the past few months HYGEIA has received several hundred letters from persons, particularly in the eastern part of the United States, who have urged the publication in this periodical of articles discussing birth control from various points of view. Soon it became apparent that these letters were being stimulated by some agency, which the writers failed to name. Eventually came a copy of the propaganda now being circulated by the Birth Control Clinical Research Bureau, asking those who receive the letter to request such an article in HYGEIA. The letter is reproduced herewith.

HYGEIA was established by the American Medical Association to educate the public on health. In fulfilling this purpose, it discusses medical progress, being careful in every instance, however, to indicate that which is established and that which is still in process of experimentation. The periodical contains a vast amount of material directed to students in the grade schools, the high schools and the colleges. In at least one state, arrangements have been made to supply HYGEIA to every elementary school in the state, where it is used as a part of the courses of instruction in public health. It is not considered that discussions of devices for birth control are suitably directed to such an audience.

At a recent meeting of the American Medical Association, the House of Delegates, which is the representative body of the organization, authorized the formation of a special committee to deal with the problems of contraception and to arrange for the publication in *The Journal* of the American Medical Association of articles which discuss "disastrous results of false reliance on products for which misleading claims are made to the public." This material, published in *The Journal* of the American Medical Association, is thus available for reproduction in any periodical addressed to that part of the general public interested in birth control. There would seem to be no reason, however, why a periodical reaching great numbers of school children and adolescents in the United States should carry this information to them or should discuss some of the highly controversial aspects of contraception as a social phenomenon.

It will be interesting to the readers of HYGEIA to learn that a careful investigation made of the persons who wrote to this periodical requesting that it devote its columns to birth control indicated that apparently they are much more interested in birth control than they are in health in general, since less than 10 per cent of them were actually subscribers to the magazine.

That Right-Sided Pain

By LOUIS M. LEIBOW

ONE OF the commonest and most dangerous pains is felt on the right side of the abdomen. The average layman attempts to diagnose pain by whatever lies underneath the painful area. Although he may be right at times, the cause of pain may lie far remote from its site. Only a physician has had sufficient training and skill to diagnose correctly the cause of your pains and recommend the proper treatment. Many doctors receive hurry calls: "Doctor, come right over! Johnny has pain on the right side, and I'm sure it's appendicitis." The doctor arrives and finds all the relatives, friends and neighbors crowded around Johnny's bed, and all agree that the little patient has appendicitis. There is no doubt that the doctor will immediately confirm the diagnosis!

The doctor carefully examines the patient. He also particularly presses on the right lower side of the abdomen, over a region known to him as McBurney's point. Johnny cries with pain. Surely that is sufficient proof, says one neighbor. It must be appendicitis. But the doctor, instead of stopping at that point and telling the parents the sad news, continues to examine carefully the heart, lungs, eyes, ears, nose and throat and completely down the back, returning again to the abdomen. Anxious eyes

view the procedure; and after he has completed the examination he tells the parents that Johnny has acute appendicitis.

The response of the onlookers may well be "You're telling us!" "We knew that before you came in." Then why was the doctor so careful in his examination before making his diagnosis?

Although the layman thinks of only one condition, acute appendicitis, the doctor must think of more than twenty-four serious conditions that may have caused Johnny pain on the right side. The doctor's skill and long years of training will cause him to rule out all these conditions before he makes his final diagnosis.

What are some of these other conditions that may cause pain on the right side of the abdomen? For one thing, abdominal pain occasionally occurs in diseases of the brain, especially tumors and other expanding lesions of the brain. Then, too, pneumonia and pleurisy at the base of the right lung may cause abdominal pain and be mistaken for appendicitis. In young children, pneumonia is particularly apt to cause abdominal pain and rigidity.

An inflamed and distended gallbladder may produce similar pain. Gallbladder colic, due to gallstones, at first may take the form of gastric distress and not infrequently be associated with nausea and vomiting.

Kidney colic induced by passage of large stones from the kidney may cause agonizing pain in the abdomen with nausea and vomiting, sweating and even fainting and collapse. A movable kidney causes similar abdominal pain.

Indigestion and inflammation of the small and large intestines will produce colicky abdominal pain which may closely simulate appendicitis. Another cause is acute intestinal obstruction, which means blocking of the intestinal canal either by strangulation due to adhesions or by intussusception, which is the slipping and folding over of one part of the intestine into an adjoining section. This usually occurs in infants or young children. Angina pectoris, a serious heart ailment, may be ushered in by severe gastric distress.

In females, physicians have to consider right-sided salpingitis, which is an inflammation of the right fallopian tube; also, a cyst of the right ovary may in some instances resemble closely an appendical abscess. Ectopic gestation, pregnancy in the right fallopian tube instead of in the cavity of the uterus, may cause cramp. Tuberculous peritonitis, an inflammation of the peritoneum or lining tissue covering the various abdominal organs, particularly if it occurs in the right lower region of the abdomen, may simulate appendicitis.

LEAVE THOSE CATHARTICS ON THE SHELF WHEN YOU HAVE A RIGHT SIDED PAIN! CALL YOUR DOCTOR IMMEDIATELY.

Gastric distress, a common condition due to overloading the stomach or to an indiscretion in eating and drinking, may be difficult to diagnose. A thorough knowledge concerning any previous attacks, chronic indigestion and periodicity of pain, sour stomach and so forth will help your physician determine the seriousness of the case.

Typhoid may also be mistaken for appendicitis. Other abdominal conditions which may be mistaken for appendicitis are tuberculous abscess of the loin, groin or right hip; perforation of a stomach ulcer; lead colic; acute pancreatitis; hysteria, appendicular hypochondriasis and many others too numerous to mention.

Careful observation and the use of advanced diagnostic aids will help the physician determine the true condition. Early recognition of the real cause of abdominal pains, whether it be simple colic or the more serious organic condition, is most important. Too much stress cannot be laid on early recognition, as it may mean the life or death of the patient. Decisions must be quick, and the proper medication must be instituted.

Since acute appendicitis is the most common organic disease to produce abdominal pain, more knowledge of its causes may help you keep your health.

What may cause appendicitis? Appendicitis is produced by bacterial or catarrhal conditions

of the intestines; habitual constipation; indigestion and flatulence as well as a predisposition to appendicitis. It may arise after eating a large, indigestible meal, especially if such a meal is taken late at night. Bolting the food and eating large meals at irregular hours predispose to an attack.

The first definite symptom of acute appendicitis is severe colicky pain about the navel and the right side of the abdomen. Often there is nausea. This may come on suddenly, but in most cases there are noted for a few hours certain distinct premonitory symptoms, such as nausea, dyspepsia, vomiting, loss of appetite, flatulence, a sense of heaviness, soreness and tenderness over the lower right side. The primary pain may subside if the appendix becomes gangrenous or ruptures. Thus the patient may hesitate in calling his doctor, believing that he is better when he is really worse. Fever follows, but it may vary in height and in some cases even become normal, although the case may be a severe one. Tenderness is almost invariably present. The point where tenderness is usually most acute is in the region of the appendix and is known as McBurney's point. Any case of appendicitis may suddenly become desperately grave because of rupture or gangrene, in which case general peritonitis may develop. Pus may be limited by nature's formation of adhesions. In such a case, a lump is felt in the right side. When perforation occurs, there is always some peritonitis. Appendicitis which subsides may at any time recur, and the life of such a patient is in constant danger. Such a patient is much safer with his appendix removed.

Acute appendicitis may terminate in death, complete recovery or lowered vitality, during which acute attacks are almost certain to recur. If a patient has once had appendicitis, he will always be liable to suffer from another attack if the appendix has not been removed.

Many complications may occur following appendicitis; therefore, a positive prognosis in any case of appendicitis is an absolute impossibility. The future of every case is clouded with uncertainty. In spite of the previously mentioned difficulties and obscurities, the doctor can in the majority of cases decide with a reasonable degree of accuracy whether or not the patient is becoming worse. He may be reasonably confident, if continued improvement occurs, of a favorable result.

In New York alone, 20,000 persons die every year from acute appendicitis. Why, with modern scientific and surgical advancement, should we have so many deaths? The fault lies with the patient. If in every acute attack of appendicitis, operation were performed within twelve hours, there would be few deaths. Remedies may allay pain. The giving of opium is dangerous, and the use of cathartics should be condemned. The use of any physic, no matter how mild, may tend to rupture the acutely inflamed appendix and thus lead to dangerous complications.

There is no medical treatment for appendicitis. It is purely a surgical disease. Don't temporize. The surgeon is often called too late. If the patient can be seen by the physician at the beginning of the attack, immediate operation in every case would be eminently proper. If this plan could be followed out, the mortality from appendicitis would be greatly reduced.

The diagnosis of acute appendicitis is not invariably as easy as many seem to believe and frequently is altogether impossible without opening of the abdomen. Although a typical case of appendicitis is unmistakable, there are variations in the severity and the manner of onset and occasional lack of correspondence between the symptoms and the actual local condition, which may demand the skill of the most expert diagnostician. The case is often self diagnosed as "biliousness" or "a cold," and in others the symptoms may be insignificant; yet the patient may be up and around, although having an abscess. The tenderness may be in an unusual location, and the patient may have a subnormal temperature; the symptoms may lessen, and yet the patient may get up with an abscess; a gangrenous appendix may be present with a most misleading mildness of symptoms, and even a diffuse peritonitis may be present from the very onset of the disease.

Many diseases may cause right-sided abdominal pain; not all right-sided abdominal pain is due to appendicitis. The symptoms of any or all of these diseases may not "run true to form." If the physician with his special training and knowledge of these conditions finds difficulty in determining which one of these symptoms is causing the right-sided abdominal pain, how ridiculous, even dangerous, it is for a friend or neighbor, no matter how intelligent, to attempt to advise or guide the patient. Not only is proper advice necessary, but this proper advice must be given promptly.

Do not give cathartics; do not give enemas; do not give drinks; do not give food; do not give anything except instructions for calling the doctor at once.

Do not gamble with your health as you would with money. Remember that you have only one life to lose.

Famous Premature Babies

Philip D. Gendreau

By ROSE A. LAUGHLIN

PRIOR to the advent of the modern incubator and the "Breck feeder" about fifty years ago, the premature's chances of surviving were small indeed. Some did live, for it is known that such intellectual giants as Newton, Darwin, Cuvier, Napoleon, Voltaire, Rousseau, Hugo, Lamartine and Renan started life as premature babies. They were among the fortunate few who were kept warm, were able to be fed and who received good care.

When Sir Isaac Newton was prematurely born in 1642, he was extremely weak and so small that, according to his mother, he could be put in a quart mug, and for some time after birth his head had to be supported by means of a scarf tied around his neck. Because he lacked the physical strength to play, he had few childhood friends. To dispel this loneliness, he amused himself by designing and constructing mechanical toys and models. In time he outgrew this weakness, attended school and later college.

As a man he was apparently healthy, and, as well as a hard worker, he was brilliant. When 23 years of age, he discovered what is known as his binomial theorem, and soon afterward came the elements of the differential calculus which he called fluxions. The next year was a busy one, for in addition to determining a method for calculating the area of curves and the volume of solids, he commenced his immortal studies on gravity, on optics and on color. Newton's best known work and one which alone established his fame is his "Principa," which he started at 44 years of age and finished within a year. He died at the ripe age of 85 years.

Another great scientist was born prematurely in 1809. Charles Robert Darwin was the second youngest of six children. His childhood was a simple one, and he frequently took long solitary walks, during which he allowed his imagination to wander off on startling adventures. He was fond of shooting and collected franks, seals, coins and minerals. After leaving school it was intended that Darwin should enter religion, but later this was changed to medicine.

However, fate altered the entire course of his career at 22, when he received an invitation to sail on *H.M.S. Adventure Beagle* with a party of noted scientists. The cruise lasted six years and included South America, Australia and New Zealand. Darwin's geologic studies on this voyage were destined to become the start of his life's work.

At this time, he was tall, thin, strong and active. He must have possessed considerable endurance, for when the ship's supply of water failed, he was one of the few who were able to search for water while all the other members of the expedition were prostrated by thirst and exhaustion.

Charles Darwin accomplished much during the last forty years of life. It was during this time he wrote the "Origin of Species," the "Descent of Man and Selection in Relation to Sex," "Expression of the Emotions," "Narrative of the Surveying Voyages of *H.M.S. Adventure Beagle*" and "The Variations of Animals and Plants under Domestication." The latter part of his life was spent in studying plants, and he died in 1882 at 73 years of age.

While Darwin was in his infancy, a French naturalist, Georges Cuvier, was at the height of his career. Born prematurely in 1769, he was an unusually bright and intelligent child. He early became interested in natural history; and when circumstances forced him to earn his own living at 19, he was fortunate in being able to continue this interest at the seashore home of a pupil he tutored. Here he spent six years

SIR ISAAC NEWTON

VOLTAIRE

JEAN JACQUES ROUSSEAU

CHARLES ROBERT DARWIN

teaching, studying and writing his earliest scientific papers on comparative anatomy. Because of the interest created by these papers, he was well received in Paris when he arrived there at 25 years of age. From then on his career was brilliant, and, being a favorite of Napoleon, who also was prematurely born, he was elevated to office and eventually made director of the higher educational institute of the empire.

His principal writings were on comparative anatomy (1801-1805); on the fossil bones of Paris (1812); the structure of fishes (1820), and on the animal kingdom (1816). He died when 63 years of age, in 1832.

Voltaire, born François Marie Arouet in 1694, scarcely breathed at birth. It didn't seem possible that he could live, for he was so weak and thin. During the whole first year of his life it was often thought he would die. Although his childhood was one of semi-invalidism, he must have outgrown it, for as a man, he was known for his immense energy. At 24, he assumed the never-to-be-forgotten name of Voltaire.

He did not commence to write seriously until his early twenties, though even as a child his unusual intelligence was noticed in school. During his life he wrote plays, the better known being "Mérope" and "Mahomet," poems including "The Henriade" and "Pucelle," romances, tales such as "Candide" and historical essays. In all, when he died at 84 years of age, he had written between fifty and sixty pieces and was known as an accomplished craftsman without superior and scarcely a rival.

Jean Jacques Rousseau, born in Geneva in 1712, survived only because of the extraordinary care of his aunt. Throughout infancy he was a weakling and even until 10 years of age was

GEORGES CUVIER

ERNEST RENAN

considered delicate. This he outgrew and became a sturdy and hardy youth who wandered on various trips by foot, through Switzerland, Italy and France. As a child, Rousseau was small, attractive and precocious. He attended school for only two years, though before 7 years of age his father had taught him to read biography and historical novels. Until 25 years of age he had no definite vocation or ambition but now began to write after the style of Voltaire, also prematurely born, and to study music seriously. Eight years later he was publishing articles on music and political economy, and when 37 years old he made his mark as a writer on the publication of the essay, "Lettre sur les Aveugles."

Napoleon said of Rousseau that without him there would have been no French revolution. He achieved everlasting fame, and among a few of his works are "La Nouvelle Héloïse," "Le Contrat Social," "Émile," "Confessions," "Dialogues" and "Rêveries du Promeneur Solitaire." His most brilliant work was done the latter part of his life, and he died in 1778, aged 66.

Victor Marie Hugo's mother said he was no longer than a knife when he was born in 1802. When placed in a deep chair which served as a cradle, he seemed to disappear. It was difficult to keep him sufficiently warm, and it was thought surely he would die. At 17 months of age he could pronounce words but could not walk, and his teeth came through with difficulty. This weakness he outgrew, for at 3 years of age, though small, he was sent to school.

As a pupil he excelled in mathematics, was an assiduous reader and composed all manner of verses, odes, satires and poems. His first

NAPOLEON BONAPARTE

VICTOR MARIE HUGO

novel was started when he was 15, and two years later the Academy of the Joux-Floraux at Toulouse awarded him first prize for his poem on the restoration of the statue of Henry IV.

Victor Hugo was the greatest literary influence in the nineteenth century and one of the most remarkable figures in French literature. In addition to writing eighty volumes, he found time to enter vigorously into the political activities of France, which resulted in his exile to Brussels for 18 of his 83 years of life.

Alphonse de Lamartine, the French poet, statesman and man of letters, was born in 1790. He was the eldest of six children and was taught by his mother, who had derived her ideas of education from Rousseau's "Émile."

An inveterate reader, he wrote poetry at an early age. However, his first book "Méditations, Poétiques et Religieuses" was not published till he was 30 years of age. His best known verse was "Lac," but he also wrote numerous historical works and biographies. Like Hugo, he was interested in politics and entered the diplomatic service of France at 33, taking an active part in the political administration of his country. Born prematurely, he lived for 79 years.

Ernest Renan states in his "Recollections of My Youth" that at his birth in 1823 he was a very weak infant. This premature child was able to outgrow his early physical weakness and attend school at 6. There he was known for his ability, hard work and good conduct, and when 15 years old he was taken as a young prodigy to Dupanloup's model Seminary in Paris. At 25 he won the Prix Volney for his "General History of Semitic Languages." When he died at age 69, he was noted for his subtleness and versatility and as a master of modern French criticism.

Halfway between the births of Rousseau and Hugo, another premature infant who lived to be reckoned with was born in 1769 on the Island of Corsica. Napoleon's mother was at mass when labor began, and she reached home just in time for the birth. Napoleon was a delicate child, thin for his age, with a head so large that it looked out of all proportion to the rest of his body. However, he was not lacking in energy and aggressiveness, for at an early age he was considered a little bandit. He fought, scratched, scrapped with every boy he met.

At school he distinguished himself in mathematics and spent most of his spare time absorbing himself with books about the lives of great men of the past, about history, philosophy and geography. He most enjoyed games with soldiers, and as a pastime he frequently reenacted the wars of the past.

It is interesting to note that from Napoleon's seventeenth to twentieth year he had literary ambitions and was a staunch follower of Rousseau. His great opportunity arrived in 1796 at 27 years of age, when the French revolution seemed to be languishing. Placed in command of the army, he reorganized it with such energy and effectiveness that the rebels were soon dispersed. From then on, his rise to fame and power was meteoric.

Napoleon was not only a great soldier but a leader of men, a giver of laws and an able financier. He built roads and improved industry. In a very short time the country was once more stabilized. He finally died in 1821 at the age of 51 on the Island of St. Helena.

History has left us records of these premature babies who somehow lived to leave their mark on the world. Civilization has been enriched by their outstanding contributions. It is interesting to note how some of these more famous ones influenced the lives of others who also were prematurely born. One wonders how many thousands of prematures might have lived to attain fame, had they received modern care. Until comparatively recent times, it was a matter of chance that a baby born too soon escaped immediate death. But so rapid has been the progress of modern pediatrics that nowdays it is probable that the premature infant receiving immediate hospital care not only can be saved but can grow up to be healthy and normal.

A baby is now considered premature, regardless of his age at the time of birth, if his weight is less than 2,500 grams, or 5½ pounds. Some of these infants are tiny specks of humanity weighing as little as 2 pounds. The premature baby is really immature, so that the whole effort of modern pediatrics is aimed at making these babies mature as soon as possible.

For example, due to the small amount of protective fat and the incomplete development of its heat-regulating system, the premature child has to be supplied with artificial heat to maintain a normal body temperature. In 1857 the first incubator was introduced by Denucé; it consisted of a double-walled tub, refilled with hot water at intervals to maintain the necessary temperature. Later this was improved by Tarnier in 1880, who introduced the first closed incubator. The next improvement was the hot air room, which was the idea of Arnaud of Turin. Today, many modern hospitals are equipped with air-conditioned cubicles, having an optimum room temperature of 75-100 F. and a humidity of 65 per cent.

Up to the beginning of the present century, the importance of breast *(Continued on page 268)*

By RICHARD KOVACS

AMERICAN SPAS

MINERAL springs have been used by mankind for better health since the beginning of history. Primitive man and wild animals when exhausted or suffering from disease bathed in certain waters. In ancient Egypt, India, Persia and Greece, temples were erected near springs, and they were under the control of priests. The Romans developed magnificent bathing establishments, and hot springs discovered by them on the continent of Europe became places of pilgrimage for the sick and disabled. The nature of the healing powers of the springs was a mystery until recent times. An invocation of the fourth century reads: "Hail thee, Oh spring, whose origin is unknown to us, holy, beneficent, inexhaustible, clear as crystal, azure-hued, murmuring in the shadows. Hail thee, Oh genius of the city, giving us health bringing drink."

The far-reaching discoveries of modern medical science brought on a new era of usefulness for the ancient fountains of health. The word "spa" as employed now has a wider meaning. It means a health resort developed at a mineral spring or a group of springs, which uses the spring water at its source in conjunction with all other recognized means for the treatment of disease. The modern "Spring of Health" occupies a unique position between the home and hospital environments. It possesses some advantages of both without many of their disadvantages. It cares for people who should be away from home and business but who do not need the confining enameled walls of the hospital. In its working scheme, the sun, air and water are the chief allies of the ministering physician.

When one asks what constitutes the chief virtue of a certain health resort the answer is not so simple as it would first appear. The inscription over one of the remnants of the famous bath of Emperor Caracalla of Rome reads as follows:

> Light of heart approach the shrine of health
> So shalt thou leave with body free of pain
> For here is no cure
> For him who is full of care.

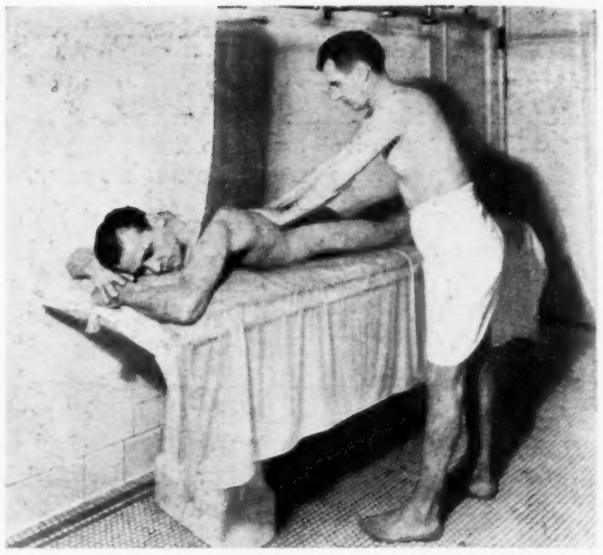
This sentence is as valid today as it was 2,000 years ago. In the chronic invalid's life, no matter from what ailment he may be suffering, the visit to a health resort opens a new and hopeful chapter. It is generally recognized that the pleasant setting, the change of atmosphere, the life free from business and household worries, the absence of the don'ts of one's nagging relatives, the concerts and entertainments contribute as much to the result of the "cure" as the mineral springs of the resort.

There are available long figures of laboratory analysis of the organic and inorganic chemical contents of the mineral waters, but they usually do not cast any conclusive light on the elusive property on which the curative effect of the springs rests. Exhaustive studies are still needed to describe the effect of the delicate chemical constitution of the various mineral springs on human beings when imbibed at their source. Generally speaking, the chief impor-

tance of drinking copious drafts of water is that drinking opens the eliminating channels in the bowels and kidneys; bathing opens those of the skin, and outdoor exercise, walking usually, adds to the general health building effects. The heat of the baths relieves rheumatic pains and softens deposits around the joints. Additional mineral and gas contents aid in specific disease conditions. All these effects quicken the circulatory, digestive and mental processes and stimulate sluggish internal organs to better function. Well directed physical treatment, such as electricity and massage, to the especially affected parts brings on much better response in the generally rejuvenated organism. In addition, in the ideal health resort the diet is regulated; simple, well cooked meals are offered; languorous music is played; lights are out at 9: 30 or 10 p. m., thus giving a much needed rest to shaken nerves and to the throat, stomach and intestines of some persons long a prey to high powered rye, Scotch and gin.

There are numerous disease conditions in which a stay in a health resort may be helpful. Among them are diseases of the stomach and intestines, such as chronic constipation; diseases of the liver, such as gallstones, chronic heart disease and other disturbances of the blood circulation, chronic bronchitis and asthma and chronic kidney and bladder ailments. The modern conception that arthritis and rheumatic troubles are a disease of the entire body and not of the joints and muscles only added a large list of conditions to be treated by the combined resources of a health resort. Of course, people exhausted after any form of acute illness or operation will find good convalescent care in health resorts, and there is also a great field for general health building in these places. The simple measures of rest, relaxation, palatable food, invigorating mountain air and forest scenery combined with some tonic baths, massage and exercise are of immeasurable help in renovating body and soul in those who are only tired out and worried by the strain and rush of modern life.

The health resorts on the continent of Europe and England have developed into a fine art the blending of all factors potent in the success of a spa. Most of these spas have specialized in handling one condition or one group of diseases. Patients are, as a rule, sent there by their physician who knows the resources available; they are usually referred to a competent spa physician, who checks on their condition and institutes appropriate treatment. A trained and supervised technical staff administers the treatment; the patients are seen regularly by the spa physician and at the end of their stay are referred back with a complete report to their home physician. The popularity of continental health resorts among their own people and abroad was due to the fact that everybody connected with them had the one aim of ministering to the needs of those who arrive in quest of health. In past years, millions of dollars of American money were spent in these resorts, and patients cheerfully returned yearly for more treatment.



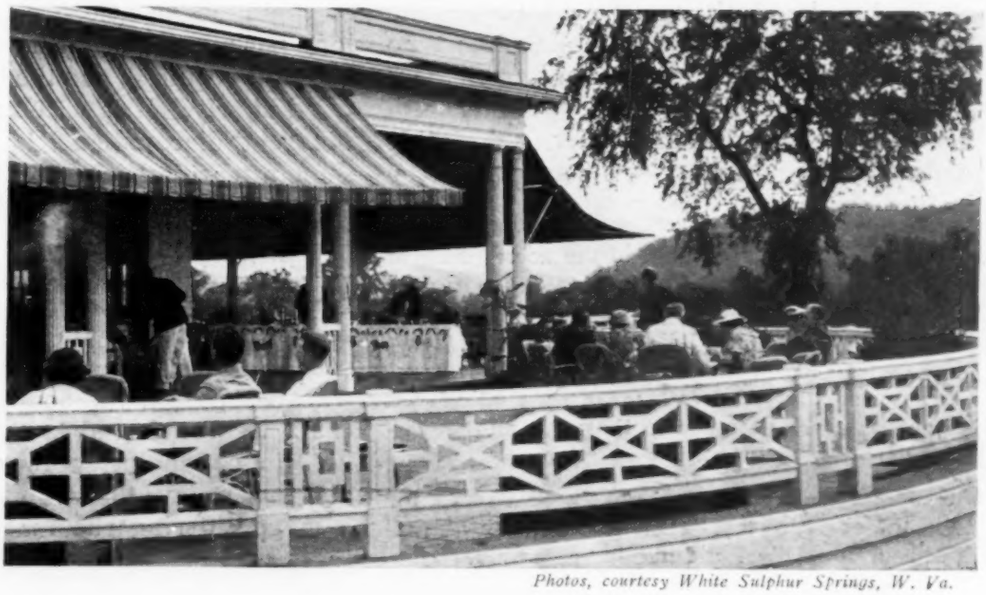
IN THE "VICHY DOUCHE" WATER IS SPRAYED ON THE PATIENT FROM ABOVE WHILE HE IS BEING MASSAGED.

The recent upheaval in travel to Europe and the lack of sympathy with the tendencies of some of the continental countries has very appropriately focused interest on the abundant and splendid natural healing resources of our own country. There are over 2,000 places boasting of health springs in the United States. Within our great country of mountains, lakes and forests extending between the Atlantic and Pacific and from the Rockies to the Gulf of Mexico, it is possible to select a health resort in almost any climate and season. Unfortunately the status of some of our health resorts is far different from those of Europe. Part of this is due to the fact that state and municipal authorities as a rule do not cooperate with the resorts. Many of the watering places are simply privately owned bath houses crudely advertising to the laity. The public in turn has acquired the unfortunate habit of patronizing these places without consulting a physician before going there and not undergoing examination by a competent local physician before taking baths. No wonder that physicians are reluctant to recommend such places in which the whole procedure of treatment becomes a kill or cure

AN OXYGEN FOAM BATH IS ONE DELIGHT OF THE PATIENT AT THE SPA.

NUMEROUS CHEMICAL AND LABORATORY TESTS THAT ARE GIVEN EACH PATIENT SERVE TO COMPLETE THE REPORT WHICH IS SENT HOME WITH ALL PERSONS.

performance. The bath houses are ready to sell everything to anybody whether they need it or not, and their usual advice is that twenty-one baths should be taken for whatever ails one. The figure of twenty-one of course has no basis on any scientific fact; it's just an old custom, enabling the bath house proprietors to get at least three weeks' board out of the customers. In many of these privately owned health resorts, patients are permitted to drink without restriction any water which somebody says is good, and the amount of bathing and exercise is likewise left to the unreliable judgment of the sick person or is perhaps governed by the advice of a husky bath attendant. Some of these resorts require a doctor's prescription for the taking of baths, but in many of them there are no medical men capable of *(Continued on page 279)*



THE MODERN AMERICAN SPA OCCUPIES A UNIQUE POSITION BETWEEN THE HOME AND HOSPITAL ENVIRONMENTS. IT CARES FOR PEOPLE WHO SHOULD BE AWAY FROM HOME OR BUSINESS BUT WHO DO NOT NEED THE CONFINING HOSPITAL WALLS.

Photos, courtesy White Sulphur Springs, W. Va.

Public Health Aspects in Heart Disease: II

J. HAMILTON CRAWFORD concludes his discussion of an increasingly important problem

A RECENT SURVEY of hospitals in New York City by the New York Heart Association has clearly demonstrated that the number of beds available for the treatment of patients with heart disease is inadequate. As heart diseases are essentially chronic diseases in which, to be sure, acute episodes recur from time to time, the provision of satisfactory hospitals for the treatment of the subacute stage of the disease is at present probably the most pressing need. A perusal of the more or less inadequate data on the subject suggests that if satisfactory hospitals of this type existed, the number of beds available in the general hospitals for the treatment of seriously ill cardiac patients might prove adequate.

The available data failed to show any clear difference between the various types of hospitals to which heart patients are admitted, as, for example, between hospitals for chronic cases and convalescent homes, or between these hospitals and homes whose main function is the custodial care of the aged and infirm. Homes for the aged generally do not admit patients with heart diseases. It was a curious fact that most of the institutions grouped under the heading of chronic hospitals make almost no provision for cardiac patients, even though these patients provide one of the largest public health problems in chronic disease. It seems desirable to define the functions of the particular type of institution:

1. Hospitals for the treatment of the acute phase of diseases and for intensive diagnostic study.

2. Hospitals for the treatment of the subacute stage, where prolonged hospitalization is necessary.

3. Sanatoriums for the treatment of rheumatic fever. These are essentially similar to those used for tuberculosis.

4. Custodial homes, to provide custodial care for those in the chronic stage of the disease with a minimum of routine medical and nursing care only.

5. Convalescent homes, essentially for the purpose of building up the general condition of the patient as the final stage in the recuperative process after prolonged treatment in the hospital or clinic. It is to serve only those requiring little or no medical attention and only a minimum amount of nursing care.

A division of medical facilities such as this would insure great economic saving, while still providing adequate service for the sick. At the present moment the apparent lack of hospital beds for cardiac patients in the "acute" general hospitals is due in part to the fact that many of the beds in these hospitals are occupied by those in the subacute stage of the disease, who would do equally well with less medical supervision and rather less nursing care than is given in the acute hospital. Many beds are also occupied by aged individuals who merely require custodial care; but because of the lack of sufficient institutions of this type they remain indefinitely in "acute" hospital beds. The study revealed that the most urgent need was for institutions of the last four types.

Heart diseases need prolonged treatment. After any acute episode, even when a routine of treatment has been established, rest over a long period of time with careful medical observation is required, and the individual is rehabilitated slowly. It is a common experience that many cardiac patients have to be readmitted soon after discharge from the hospital. The reason for this, in many instances, is the fact that in order to make way for more urgent cases, they are discharged before they are restored to the best possible condition. The result is an increase in the number of days they spend in the hospital each year. An individual who has passed the acute phase of his illness could be transferred to the "subacute" type of hospital or sanatorium for subsequent treatment and thus relieve the strain on the acute hospital.

In considering rheumatic fever it was seen that prolonged institutional care is necessary for

obtaining the best possible result. Similarly in syphilitic heart disease, where signs of heart failure have appeared, prolonged conservative treatment has been shown to be necessary. In hypertensive heart disease, when there has been cardiac decompensation, a long period of rest as well as medication is indicated, in order to reestablish the cardiac reserve so that it can carry the extra load which the hypertension imposes on the heart.

The required facilities in the subacute hospital would be similar to those in the acute hospital, with the difference that a smaller staff would be required. Physicians could supervise a larger number of patients, and the nursing staff could be rather less than is necessary in the hospital for acute diseases. Some provision for the treatment of acute emergencies occurring in the patients in the institution would be necessary, but this would be only a minor part of its function. Complete x-ray, electrocardiograph and laboratory equipment would be required, but the units need not be so large as in the acute hospital. It is of course advisable to have some hospitals of this nature located in the city; but it is not a requisite that they should all be. In fact it is desirable that some be situated in the country, within easy access to the city. This is particularly true in the treatment of the individuals suffering from rheumatic heart disease. It is probable that the rheumatic patient will show favorable progress more rapidly where adequate fresh air and sunshine are available. Indeed, as has been previously stated, a regimen similar to that in use for the treatment of tuberculosis would probably be the most beneficial to the rheumatic patient after the acute stage has passed. The disadvantage of locating a hospital outside the city is that it is difficult to obtain satisfactory attendance of the medical staff. Possibly the most satisfactory results would be obtained by having a full time staff in such institutions located outside the city. However, this aspect of the problem could be solved along the same lines as appear to have been successful in tuberculosis.

The follow-up treatment in patients with heart disease constitutes a most important part of their care. All require the most careful medical supervision during the ambulant stage—when they can get about—in an effort to maintain them in the best possible state of health. The number of attacks of heart failure, each of which as a rule leaves the heart in a worse condition, are reduced, and the number of hospital admissions is fewer, thus reducing the cost to the community. The follow-up should be provided by the regular physicians and for those in less fortunate circumstances by cardiac clinics. There should be an adequate number of these in any community, as they not only provide skilled medical supervision but also help to solve social, educational and vocational problems. The continuous contact of patients and physicians has also been of great value in educating the patients in the nature of heart disease and how best to cope with their handicap.

Another problem which faces the patient with heart disease is the question of employment. Since the advent of routine physical examinations it has become increasingly difficult for those persons to obtain work. Work which does not necessitate hard physical labor can be performed as satisfactorily by many people with heart disease as by normal individuals. Those whose work involves activity which is beyond their cardiac capacity should be trained for suitable occupations. The position of industry is understandable as the matter of group insurance and workmen's compensation enters into the question. However, it would seem as if this might possibly be overcome if suitable legislation were passed which would permit cardiac patients with satisfactory circulatory adjustments to sign waivers of those benefits. Unless some steps are taken it will eventually come to pass that the individual with heart disease who is capable of working will be unable to obtain employment because he will be rejected as a result of routine physical examinations and thus become a charge on the community. This will be a detriment to the morale of the patient and cause further economic burdens on the public.

This particular problem has received extremely inadequate study from a socio-economic standpoint, and it will require not only detailed study by physicians to determine which occupations are suitable for patients with heart disease, but the cooperation of employer, fellow workmen, lawyers, social agencies and physicians to arrive at a solution which would be fair to all parties. At present it seems as if conditions are becoming progressively more difficult for the cardiac patient to obtain employment.

It is extremely important for the public to be educated to adopt a hopeful attitude in regard to heart diseases. This would unquestionably be of great benefit to the individual patient; but it would also be the means of arousing public interest in promoting an intensive drive against what is the greatest cause of human suffering at the present time. Much can be accomplished at present but, with a better realization of the problem, unquestionably this is only a beginning.

By MAE KELLY

Cutting a Fashionable Figure

A DIAMOND "in the rough" does not have the sparkle and the luster that the cut and polished stone has. To disclose the fire and brilliance that lie hidden in the jewel's depth, all the highly skilled technic of the expert diamond artisan is required.

So it is with human figures! Few indeed are the flawless ones that cannot be improved by some small correction. The rare and enviable possessor of a perfect figure well knows that the painstaking efforts required to make the figure perfect and to keep it so are extremely worth while. To accomplish the task takes time, thought and for a while persistent effort. Some are and probably always will be willing to lay the burden of perfecting the figure on the clothes designer; but while style for the designer lies in the line of the garment, the secret of style for the wearer lies in the carriage.

Judging by the way it looms in the advertising limelight, the "lordosis curve" seems to be the figure blemish that creates the most disturbance in fashion's parade. Certainly it starts us off at the seat of many of the posture difficulties. But the question of where improvement should begin is not the chief concern; the important thing is to see that it does begin! All body parts must "pull together" for a harmonious moving and working unit and for the ideal figure. The lordosis curve is merely one part of the whole.

Lordosis is an exaggerated curve in the lower part of the spine. The pelvis or bony structure below the waist tips up too far in the back and down too far in the front. Technically, it is

expressed as "an increased inclination of the pelvic angle." Besides increasing the apparent size of the hips it disturbs body balance. Naturally too great an inclination of a foundation would make any overtopping structure less substantial. In the body it makes all the movements more awkward and difficult. Muscles and joints that should be flexible become tense and stiff. Pain in the back is frequently an accompaniment of this. The pain is a dull, rumbling kind that is forever present, often being worse at night.

Women will always have more prominent hips than men and should therefore not endeavor to flatten them too much; but when the hips are forced so far back that the whole body becomes rigid and the knees and backs of the legs become so taut that they bow backward, lordosis is a menace to health and beauty. Knees in a predicament like this bear a burden all out of proportion to their structural strength. Knees like these have to be unlocked before any attempt is made to pull the hips under the top structure where they become inconspicuous and do their share of supporting the torso. The one gesture alone of loosening the knees and allowing the hips to come under the top of the body establishes a better body balance, because it puts a broader base directly under the organs of the body. This is easy to do because the muscles in the pelvic region work somewhat the way a swing seat tilts. When the pelvis is lowered in the back and tilted upward in the front, the muscles and spinal column can be slightly stretched in the back, while the abdominal muscles are in a more contracted or shortened state, a most desirable result if the stomach is to be retracted.

A more difficult postural principle to follow is to lower the sword point at the bottom end of the breastbone. This bone is shaped like a sword with the handle near the base of the neck, the blade inserted in the center and closing the rib cage and the point near to the stomach. The handle should be forward and the point kept down; then the cartilages of the floating ribs stay under the chest instead of sticking out like wishbones. Often when the "chest is raised" the shoulders are thrust upward and backward, making the whole body top-heavy. When the chest leads the body into motion the head more readily stays back where it belongs, and the arms do not tag along behind the trunk, as they do when the chest and shoulders are too high.

Shoulders that are permitted to rise skyward may develop such a thirst for power that they will almost completely deprive the pelvis of its job of supporting the trunk. Shoulders do this by tensing all the muscles around the shoulder girdle. These muscles are consequently under continuous strain. Because they are so overworked, they often develop massive proportions. Storybooks write about the slim shoulders of slim heroines. Slim shoulders have not acquired greedy habits. Shoulders with the obnoxious habit of unnecessarily "shouldering" all the weight of the torso need to be treated as the Roman kings were when they were given a servant whose duty it was to whisper at stated intervals in the kingly ear, "Remember, thou too art human." Shoulders with the habit of gathering all the weight unto themselves often rear so far backward that overhanging pincushions pad the upper back. This is possible because the muscles in the middle of the back become lax and thus gather fat, until they really would make an excellent repository for needles and pins. The back now has two exaggerated curves: the one in the upper back, known as the kyphosis curve, and the lordosis curve in the lower back.

Correct the pelvic tilt; convince the shoulders that their quest for power is a mistake, and permit the arms to hang naturally and easily by the sides of the trunk. Let the upper part of the chest lead the body into motion instead of trying to climb with it into the heavens. The figure seems to lose from 5 to 10 pounds of surplus flesh in one flash, even though the actual body weight remains the same. The figure really seems to shed the pounds directly before one's eyes. It also gains a certain fluid quality that gives to it when it glides into motion a scintillating, tantalizing allure that is akin to the fascinating light play or refraction of a moving diamond. Suppleness has become one of the body's most valuable assets, both for beauty and comfort. These movements of the trunk make the difference between the "willowy" figure and the bumpy, bulky one. They also make the difference between a figure that stalks on its heels and one where the body floats into rhythmic, graceful movements of effortless ease that do not tire the performer.

Head posture needs no consideration if the pelvic and shoulder girdles have always maintained the correct relationship. If, however, the too familiar picture of stiff hips and ponderous shoulders presents itself, the head will be shunted forward, and a lumpy, unsightly egg of fat will bulge on the back of the neck. This is Figure Blemish Number One! It is most unsightly, unwanted and certainly unsung. What is worse, it is extremely difficult to be rid of, once it is acquired. A "pain in the neck"

is well on its way and is sure to be felt sooner or later.

Since Figure Blemish Number One is at the mercy of the shoulder and pelvic girdle alinement, exercise time is wasted if spent on it alone. The relationship of the pelvic and shoulder girdles should be attacked first, and gradually the head can be brought back into alinement with the rest of the body.

All of which leads us to the exercises that will bring about better posture, exercises that bring suppleness, that break down fat and yet do not build muscle. They are rhythmic and pleasant to do but frankly exceedingly difficult to put down on paper. Here they are, though, and they should help reduce figure flaws and to foster the sylphlike suppleness that is so fashionable.

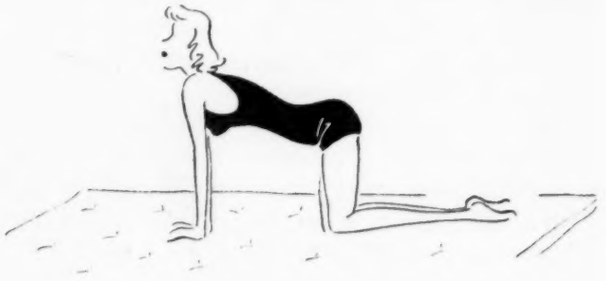
Perform all exercises before a mirror, and use a mat for the back-lying exercises when available. No matter what the equipment, if you try to perform the exercises with intelligent attention to the muscles that are being worked, desirable results will follow.

Posture Sense

Some idea of the feeling of correct alinement must be developed even before exercises are undertaken. Perhaps the easiest way to do this is to lie on the back on a hard surface; bend the knees, and with shoulders pulled down and the point of the breastbone in, try to make the back at the waistline touch the floor. This should be fairly easy. Next, try it with the legs nearly straight, the knees just slightly bent. This is not so easy. When you succeed with these two positions, try to retain the same position of the trunk as you rise into a standing position in front of the mirror. Repeat until you can do it.

Back Massage

Next, treat yourself to a back massage. Clasp your hands around both knees and draw them up to the chest. You are lying back down on the mat for this. Rock back and forth on the lower part of your back. Release the hands, and roll the knees over the abdomen, starting on the right side, going across to the left, down on the left and back up on the right. Make this exercise more difficult by raising the legs straight up in the air, and perform the same rotating movement with the legs straight. Keep the shoulders down.



Swell and Sag

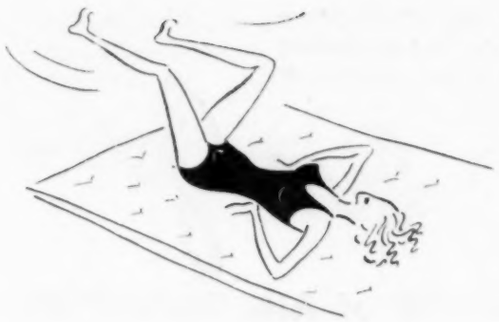
Kneel on the floor as if you were going to play horse with a small child. From a horse make yourself into a camel by humping the "small of your back." Do this by pulling in the stomach. This is the corrective part of the exercise and should be emphasized and held longer than the sag which is an exaggeration of your own incorrect position; it should also make you more conscious of it.

Elephant Walk

If the hollow in the back is still too great, bend the trunk forward. Let the head and shoulders hang loosely as if they were in a dead faint. If your position is as perfect as it should be, you will be forced to take a step forward to avoid falling. Walk this way until you feel limp and the back has bulged the right way.

Rag Doll

For sky-larking shoulders recall your floppiest rag doll, and walk as if there were not a supporting bone in your body, especially in the shoulder and neck region. Naturally you will refrain from doing this on the street. By overemphasizing the movement a normal relaxation seems less strange.



Bicycle

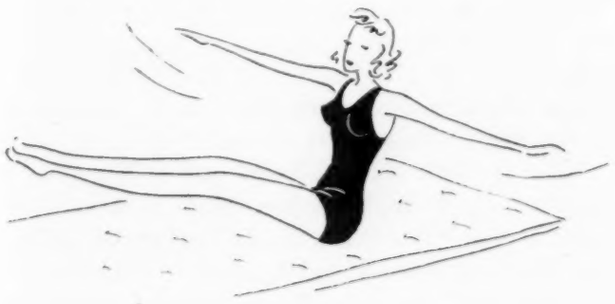
The legs are in the air, but the hips are on the mat. The back is kept flat on the mat, and the heels, not the toes, are pushed upward. The farther away from the torso the legs do the pushing, the more tone the abdominal muscles will acquire. The lower part of the back must touch the mat during the entire bicycling exercise, and the shoulders must be carefully watched to see that they stay down and do not do the work the abdominal muscles should be doing. The value of this exercise depends entirely on correct performance.

Bump Destroyer

Clasp the hands behind the back. Pull the arms straight back. The head must be back and the chin in if this is to be effective.

Shoulder Roll

Stand, as it has been said, with the dining-room in and the sitting-room down, and raise the shoulders as high as they will go. Roll them *back* and way down. Repeat this several times, and *end with them down.*



Hip Roll

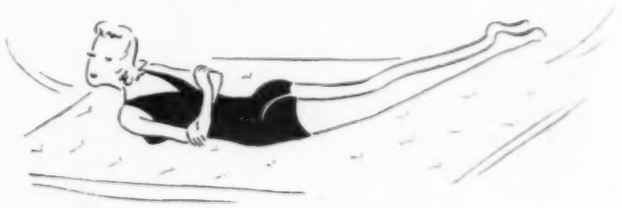
Sit on the buttocks. Keep both the legs and the trunk from touching the floor. The legs should be straight. Roll the weight from one hip to the other. Balance with the arms. Progress forward as you rock. If your abdominal muscles are not as Samson-like as they should be, your legs will feel like lead, and you will have difficulty in keeping them off the floor.

Trunk Twirl

Clasp the hands above the head, and turn palms upward. Place the feet apart. Keep the arms close to the ears and straight. Circle the trunk from right to left and opposite. Keep the abdomen tucked way in, and so prevent the trunk from bending farther back than it should go.

Airplane

Stand with feet apart and arms straight out to the side. Bend sideward to the floor, and touch opposite hand to opposite foot. Keep the heels on the floor. This exercise, because of the twist involved, gives the trunk greater suppleness than does the older one of bending the trunk directly forward to the floor and also prevents the tendency to increase the lordosis curve as one comes to the upright standing position.



Diamond Back

Lie on the face on the mat. Again clasp the hands behind the back. Pull the head back and off the mat. Keep the chin in. Do not come so far off the mat that the lordosis is increased. Turn the head right and left. These two exercises shorten the muscles in the back of the neck, helping to stretch at the same time the short muscles in the front of the neck.

When good posture results from these exercises there will be a slight feeling of tenseness in two regions in the body. Contraction will be felt in the muscles of the upper spine from the back of the head to between the shoulders and in the muscles over the abdomen, between the point of the sternum and the top of the pelvis. The lower part of the spine is lengthened downward. To keep the upper back muscles short and the lower back mus- *(Continued on page 274)*

RUMOR HAD IT THAT CAPTAIN GORRIE WAS NOT HER HUSBAND OR THE FATHER OF THE CHILD.

Dr. John Gorrie
FATHER of AIR CONDITIONING

By Iva Etta Sullivan

DID THE STATUE of handsome Dr. John Gorrie, one of Florida's favorite sons in Statuary Hall, smile when it saw workmen installing air conditioning in the United States Capitol?

It would not have been strange for he was the first man in America and perhaps the whole world to invent a successful ice-making machine, and he has the still greater honor from the humanitarian point of view of having the first constructive vision of cooling hospital wards.

He lived but fifty-two years, from about 1803 to 1855; but in those years there is the story of a romantic and mysterious birth, the struggle against disease in a frontier port of Florida, an outstanding scientific achievement, and years which were melancholy and tragic, embittered by disappointment.

He was an Episcopalian and must often have heard the trite saying about God making the weather and man enduring it; but he chose to disregard its apparent wisdom and set himself the task of changing indoor weather. Legislators, harassed by the heat, would have meant little to him, should he have thought of them, in comparison to the comfort of his patients, whom he saw dying by scores in the port of Apalachicola, Fla., where he was its most prominent physician and its foremost citizen.

It was between 1830 and 1850. He was kept busy day and night visiting those who were laid low by malaria, various other subtropical fevers and now and then yellow fever, which was so feared that even the name "Yellow Jack" presaged almost certain death.

Apalachicola was a frontier town. Indian fighting was not far away, and since it was the busiest port in Florida, ships from far places came in, bringing strange, rough sailors, some carrying contagion. They were often too sick to return with their ships when they sailed away with cotton from the rich plantations of the South. From letters written by George S. Hawkins, collector of the port, to government

officials we get first-hand information of the problems Dr. Gorrie faced.

In one, Mr. Hawkins protests against the closing of the Marine Hospital in 1849: "The suffering of the sick and disabled seamen is very great," and he goes on to ask that money be sent to pay the board of these sailors who were stranded and alone in the town. In another letter he wrote to Secretary of the Treasury Guthrie that "There has been a great number of casualities and two vessels from Chagas brought with them fever from that port."

At a dinner given to the same Captain Hawkins of the Franklin volunteers on his return from fighting the Indians at Alaqua, Dr. Gorrie was toastmaster. It can be judged by this that the two friends were allies in fighting disease.

So in spite of the smallness of the town, it was far from being a village; and when a Boston paper sneered at the country doctor who thought he could make ice in a machine, it must have patterned its picture of the port after a sleepy New England village with a leisurely doctor dosing his patients.

Dr. Gorrie was a harassed man, making wearisome rounds in the broiling Florida sun from the humble homes of the poor to the Mansion House, where many rich Continental cotton brokers lived, and then on to the hospital for the indigent sick, where he was the physician in charge. This was partly supported by the federal Marine Hospital Fund; but later it is thought there was a separate Marine Hospital where he was one of the physicians.

After each visit he felt more helpless. "If I could only keep their fever down! If I only had ice, or if there were some way of cooling the hospital wards, then I might do something," he must have said over and over to himself many times. He did not have the benefit of Ellsworth Huntington's intricate study, which shows that vitality and resistance to disease over the whole world bears a relationship to climate; nor had he had the advantage of reading Prof. William F. Petersen's books, "The Patient and the Weather," but he did have first-hand tragic information that fever and heat and death went together.

He had the idea, strange for that day, that cold would cure some diseases and prevent others. He would have approved of Mr. Huntington's work and would have been enthusiastic over the sanatoriums at Saranac and the winter cures in Switzerland. He wrote an article for the New York *Lancet* on the "Equilibrium of Temperature As a Cure for Respiratory Diseases," but the idea was so revolutionary that few took him seriously.

In 1844 the Apalachicola Land Company asked him why the health of the port was so poor. He recommended that swamps be drained and other sanitary improvements be made. Out of this request came a series of articles printed in the *Commercial Advertiser* of Apalachicola. In these eleven articles on the cause and prevention of malaria he came near to naming the cause of this devastating fever. However, being perhaps afraid of his reputation among his fellow townsmen, he did not sign his own name but signed the name "Jenner" instead. He also had the "quaint" idea that those who slept under netting escaped fevers. Perhaps he had the glimmering of the idea that mosquitoes might be in some way connected with malaria.

To him plenty of ice was the most needed thing in the South. In those days it was difficult to procure, and it cost from 50 cents to $1 a pound. Ships were uncertain, and even the rich cotton brokers were many times disappointed when the ice ships from New England did not come or the ice melted during the long, slow journey. Dr. Gorrie was practical. He reasoned that, since ice had been brought from the North as early as 1797 and the supply was still uncertain, to say nothing of its high cost after almost

"WE ARE-DOING HONOR TO DR. JOHN GORRIE, WHO BY HIS INVENTIVE SKILL MAKES IT POSSIBLE TO DRINK OUR WINE CHILLED WITH THE FIRST ICE MADE IN AMERICA."

fifty years, little could be expected from such imports. He undertook to cool his hospital wards by some means which would make him independent of New England ice ships. He did not succeed; but his vision has persisted during all the intervening years. Now it has become a reality. Three hundred or more hospitals are now wholly or in part air conditioned, and each month adds more.

Sporadic attempts toward cooling hospitals have been reported from time to time during the years since Dr. Gorrie lived. There were days back in 1881 when, had he been alive, he would have rushed to Washington. President Garfield lay gasping for breath in the White House during the city's most torrid days. The call went out from the physicians in charge, "We must have some way of cooling his sickroom." From many places, people came with ideas, some bringing unwieldy machines. Time was too precious to give them any but a cursory trial; but finally a partly successful arrangement for cooling the room was installed. The principle was practically the same as that which Dr. Gorrie had worked out in his windowless laboratory in Florida. It took much ice and was expensive, but a beginning had been made.

During the next year, Dr. Gorrie would have been tremendously encouraged. Having the need brought so tragically before the government, the Bureau of Steam Engineering of the United States Navy began to investigate the possibilities of air refrigeration. On April 6, 1883, the results of their study were printed in "A Report on an Air Refrigerating Machine for Supplying Cold, Dry Air to Vessels, Hospitals, etc."

Then until recent years, little was heard of refrigeration in connection with hospitals, although at the First International Congress of the Refrigerating Industries held in Paris in 1908, the idea was suggested but received scant attention. The congress gave most of its time to the question as it touched industry.

Strange to say, Dr. Gorrie has received little credit for his early efforts. He is rarely mentioned in the trade journals of today. In 1897 and again in 1900, *Ice and Refrigeration* featured him as the father of the ice industry. In the South he has received a few honors. In 1908, Uncle Remus in his *Home Magazine* retold the story. Dr. Edward Jelkes of Jacksonville in his brochure recounted his life and works. He was also greatly honored at the anuual meeting of the Southern Medical Association in 1935, when its president, Dr. H. Marshall Taylor, gave as his address, "John Gorrie, Physician, Scientist, Inventor." In 1908 *The Journal* of the American Medical Association had an editorial in which it was regretted that the congress held in Paris had lauded Carré rather than John Gorrie as the inventor of artificial ice.

But perhaps after written words are forgotten the monuments erected to him may still stand. Down in his home town in 1900, the ice manufacturing industries of the South erected a statue to him, each factory giving the equivalent of a ton of ice. It was a gala day for the citizens of Apalachicola. Florida in 1914 placed a beautiful marble statue of him in Statuary Hall in the United States Capitol, showing him the greatest honor his state had to bestow.

Much of our knowledge of Dr. Gorrie came down to this generation by way of Dr. A. W. Chapman, more widely known as a botanist than as a physician. He and Dr. Gorrie were friends. Dr. Gorrie died young, but Dr. Chapman lived to be 90; many of the things he told may have been tinged with the romance which lurks in the past among the very old. There was another man, George P. Rainey, who in giving his address at the unveiling of the Gorrie monument in Apalachicola said that as a small boy he had seen him and that "Dr. Gorrie was the last hope of the people when death threatened their firesides."

With these two men as links with the past, the romantic story of this small town doctor can again be told. His ancestry is clouded in an intriguing mystery. In October of 1803 or 1804 a dour Scotchman wearing the uniform of a Spanish officer brought a young and fascinating woman and her baby to Charleston, S. C. Dr. Chapman understood that they came from the Island of St. Nevis. The child was perhaps a year old. The Scotchman called himself Captain Gorrie. Rumor had it that he was not the woman's husband or the father of the child. Rumor also said that the father was of the royal family of Spain. Be that as it may, after Captain Gorrie had arranged for their care in the most luxurious surroundings possible, he sailed away and never returned. True to his Scotch blood he was taciturn, and explanations were not given to the people of Charleston.

The beautiful Spanish woman seemed to have an abundance of money, and it was not long until her charm had so captured the city that even the most curious forgot to gossip and accepted her for what she was, a gracious lady with the glamour of a mysterious past. Fortunately remittances came regularly from Spain up to the time young Gorrie had completed his education. Then some political upheaval or perhaps the death of the person most interested in their welfare must have *(Continued on page 264)*

ADULTS, AGE 21-40

THIS IS by way of being a straight talk to readers who are anywhere on the road between 21 and 40. Childish things have been left behind. The adolescent dream of "living your own life" is in process of fulfilment. If you are wise you are planning your life so that at the age of 40 you will retain much of the vigor and freshness of 21, as well as enjoy the mental poise and maturity which experience alone can give.

The success of the plan depends primarily on the preservation of vitality, and vitality depends on balance between the conserving and the spending of energy. This is an individual problem.

At 21 there is a decided hangover from the previous carefree states of childhood and adolescent development which makes most people take for granted that endurance and vitality will continue indefinitely. A young man or woman who has grown up blessed with good health usually finds it hard to realize that anything else is possible.

But physical fitness, like any other treasure, must be guarded. No matter how good your equipment is at the outset of adult life, do not take it for granted that it will stay good without effort on your part. Any machine that is neglected deteriorates, and so does the human body. It is presupposed in saying this, that you realize the need for a well balanced, well built body as an aid to a well balanced, happy life. No one enjoys incapacity in any form, unless he is psychopathic, in which case he is outside this field. Nor is the appeal being made to a generation of health cranks, who will sacrifice all the joy of living in order to adhere to a strictly correct number of calories and eight hours of sleep every night, though the heavens fall. All that is advocated is an intelligent sense of proportion.

Physically, at 21 you are the result of your natural endowments modified by habits, training and environment. That is, you may be good, fair or poor. If you have conserved your energies wisely, have enjoyed normal, healthful pleasures and activities, if you have been checked up regularly through medical and structural examinations and have made an effort to correct at the time whatever seemed to need correction, the chances are that you are in good shape. If, on the other hand, you have acted on the idea that it is better to wait until something happens before seeing your physician, the chances are that you need attention.

You may be too fat or too thin, too active or too sedentary; you may tire too easily, be susceptible to colds, or suffer from poor digestion, inadequate circulation, constipation or other ailments, due to neglect. In short, you are

Will you be as fit physically at the age of 40 as you were at 21? You can have youth's freshness of outlook and vigor of health when you reach that milestone of life IF you have a plan, says MIRIAM TOWNSEND SWEENY

running under less than full power, off center and subject to constant strains.

But this will not do if you are to be as good at 40 as at 21. The thing to do is to take inventory. Find out through a thorough medical and structural examination what physical assets and liabilities are present.

Contours change as the body develops. Good body alinement, however, is the same for child, adolescent and adult. A structural examination checks up on your body alinement, on the relation between each segment and the whole, on the way you use your body, both in part and in total and on the condition of the supporting muscles, both in motion and at rest. In short, a structural examination at this stage tells you whether you are in good alinement and therefore getting the most power with the least effort and strain.

Following the examination, a plan could be outlined which, if incorporated in your daily life, would help to insure a fit future. What would be the general content of such a plan? If you are muscularly and structurally good, the following brief suggestions will form a working basis, the details of which should be filled out by the physician who examines you and can judge your individual needs.

After rising in the morning take a "daily dozen," not one that is given over the radio or picked up at random from a Hollywood trainer or from an old friend, but one that is planned definitely for your particular needs. Consult your physician regarding this plan. Some exercises are good for some people and bad for others. Much depends on your particular type. If you are thin, overactive and tense, you need exercises that will relax, improve circulation, digestion and elimination, and increase musculature and weight. On the other hand, if you are fat, inert and too relaxed, you need stimula-

tion to oust undue placidity, strength to overcome inertia and substitution of muscle tissue for fat. All types in this age range will find that exercises done in sitting or lying positions are less tiring and therefore more effective than those done standing.

The point is that every person presents an individual picture with individual needs. In planning for physical fitness, take into consideration such details as the following: age, height, weight, type (thin or fat), occupation, routine of daily life, amount of activity, hours of sleep, rest, play and outside demands on strength, as well as habits of eating and drinking.

Your physical makeup and your daily habits do not entirely correspond with those of any other person in the world. So you see the error of believing that what will help one person will infallibly help another. If Mary Jones takes a certain kind of pill and is cured of her ailment, that does not mean that the same pills will necessarily cure Sally Smith. Yet the chances are that Sally Smith will try them. This is one of the besetting sins of our time. If some attractive voice on the radio tells you "What-Not" has helped many grateful and enthusiastic people do not be a moron who buys "What-Not" at the nearest drug store and pours it down his alimentary canal.

Some persons indiscriminately and vigorously adopt exercise fads and then complain of backache and other discomforts. All exercise is good on general principles. That is to say exercise is necessary for the maintenance of health. But what is the road to health for one person may be the road to ruin for another. Consequently it is necessary to seek advice from your physician to take only the kind of exercise that

WHEN YOU GO SHOPPING, PUT ON YOUR MOST COMFORTABLE ONE-AND-A-HALF INCH HEELS, YOUR LIGHTEST WEIGHT, WARM COAT (IF IT IS WINTER) AND A LOOSE FITTING FROCK.

is adapted to your individual needs. After doing your *own* daily dozen then, proceed with whatever else the day has to offer.

Watch your tempo or pace. Through trial and error you will find out what is your natural stride. The best test of your capacity is the way you feel at both ends of the day. If you are worn out with fatigue when you wake in the morning or when you come home at night, your daily plan needs adjustment. If in the morning you wake refreshed and in the evening feel equal to a reasonable amount of recreation, a theater, a bridge game, a walk or whatever appeals to you and yet are tired enough at bedtime to sleep soundly, your plan is a feasible one for you, personally.

An intelligent person budgets his physical reserve as he budgets his income, spending wisely along the way, so that he will have a reserve of as great value at 40 as at 21. The budget will include exercise for relaxing, for circulation and for muscle building; rest for recuperation; repose for thought, and recreation for re-creation.

For women between the ages of 21 and 40, style in dress is usually of great importance. There is not an attempt here to belittle the dictates of fashion, only a plea for a certain amount of common sense. When you go shopping, walking on city pavements, for instance, do not wear 3 inch heels and short-vamped shoes. Do not wear a heavy coat that you hold up around your ears with your shoulder and neck muscles. If you do, then when you arrive home do not complain that your ankles and feet are swollen and painful and that your head and back ache. Don't blame shopping; blame your outfit. Rather, put on your most comfortable, 1½ inch heels, your lightest weight, warm coat (if it is winter) and a loose fitting frock or suit. Have your parcels delivered instead of carrying them under your arms, which makes for fatigue and pressure; then see if at the end of the shopping trip you have enough energy and spirit left to be thrilled over what you have bought.

Both shoes and stockings have an important influence and effect on feet. They can make or break them. More often than not they break them! This is due to the lack of knowledge and slavery to style. If women would dress their feet as they dress the rest of their bodies, appropriately for the occasion, there would be fewer frazzled nerves and other distortions of body and spirit. If your regular occupation involves much walking or standing, use a shoe with a moderate heel, with a cushion of rubber at its base. Insure plenty of toe room and length (half an inch longer than the great toes), and see that the line of the inner border of the shoe is practically straight as far forward as the end of the great toes. The shoe may have an otherwise pointed toe if preferred.

Stockings present another problem. Some years ago, a certain hosiery manufacturer tried to introduce "rights" and "lefts" in stockings as in gloves, but for one reason or another, the idea was not popular. *(Continued on page 273)*

WHAT A HEADACHE!

Black Box

By MILTON MacKAYE

HEADACHE is the most democratic of discomforts. It plays no favorites, plagues alike mighty and meek. Over half the people who enter doctors' offices describe headache as one of their symptoms; personnel directors in industry list it as the cause of 20 to 25 per cent of employee absences; in thousands of homes, schools and offices that dull throbbing in the skull is the enemy of efficiency and happiness.

In medieval times, headache was treated by shaving the head, searing the scalp with red hot pokers, by bloodletting and magic spells. Today we have abandoned such heroic therapy, but most of us still share one error with the ancients: *We try to treat the headache itself instead of the condition that produces it.* The result? An enormous business in pain killers and sometimes the ignoring of an important warning that there is trouble somewhere in the human system. Our family medicine cabinets are full of pills, powders and capsules, some of them harmless pain killers, others dangerous drugs which should be used only with a doctor's approval. All of them have this in common: They do not furnish a cure; they merely suppress a symptom. And the cause of a headache may be anywhere but in the head.

Every one knows that overeating, intestinal disturbances, kidney ailments and liver upsets sometimes produce headache. But why should the ache be in the head instead of in the section of the body actually ill? It is a quirk of physiology that many of the vital organs of the body are not sensitive to impulses which ordinarily cause pain. The stomach, liver, lungs, even the

heart can be incised without local sensation. These organs, however, have a way of letting their disturbances be known; their message of complaint is relayed to the very center of the nervous system—the head, which thus becomes the great sounding box for reflex pain.

An occasional headache may be unimportant, but chronic headache is as certain a danger signal as a red traffic light. Something is wrong, and the use of mere pain killer won't solve it. The best advice is to see a doctor. The numerous causes (some medical textbooks list 203), and the variation of the symptom itself, makes the subject too complex and dangerous for amateur diagnosis.

For convenience, headaches may be divided into three classifications: mechanical, toxic and functional. This grouping is frankly arbitrary, for many headaches must be placed in two or all of the groups.

Mechanical headaches are produced by diseases of, or damage to, the head itself. The headache which accompanies your cold, for example, is probably due to an inflammation of the sinuses, those bony cavities in the front of the skull which communicate with the nostrils. The swelling of the mucous membrane lining the nasal chamber closes the narrow passageways to the sinuses. A partial vacuum results which sucks on the mucous membrane of the sinuses, causing a stretching of the nerves—and dull pain above the eyebrows. When the frontal sinus is involved the ache is worst in the morning and recedes when the day advances and nasal drainage is effected. Physicians relieve this condition with local applications of solutions which shrink the membranes, reduce the congestion of the sinus openings and again permit air to enter. Sometimes simple mechanical drainage will accomplish this purpose.

Eye headaches due to astigmatism or eyestrain are generally frontal also. These headaches usually occur in the evening or, among children, after school hours. Even a slight error of refraction may cause a severe headache; close work or reading in artificial light that is either too bright or too dim are contributing factors. Fitting with suitable glasses corrects the defect, removes the strain and cures the headache.

Major headaches of the mechanical type are so painful that few people will fail to consult a physician. A distinguishing characteristic is that they may prevail even after the sufferer has gone to sleep, may rouse him from sound slumber. Vomiting without preliminary nausea sometimes accompanies attacks. Such headaches may indicate concussion, tumor or abscess of the brain, diseases of the cranial blood vessels or meningitis, the headache of which is one of the most agonizing known to man.

To understand the anatomy of headache, some knowledge of the cranium is necessary. Briefly, the skull is filled so compactly with brain and cerebrospinal fluid that even a slight rise (or fall) in pressure of this fluid can produce pain. Why? The outer covering of the brain, known as the dura, or dura mater, is a tough white membrane interlaced with branches of several cranial nerves. The membranes can be cut with a surgeon's knife without pain. But they are extremely sensitive to stretching, and this stretching process is important in considering the second great classification of headaches—those due to toxic causes.

Toxic headaches are produced by poisons from outside the body—alcohol, gases, drugs, tobacco—or by poisons manufactured within the body itself. In kidney ailments, constipation and all diseases accompanied by fever, powerful poisons are generated within the body. These toxic substances may alter the circulation in the blood vessels of the brain or may directly affect the nutrition of cranial nerves. The whole fine webwork of blood vessels in the brain covering may become congested; the dura is stretched, and pain results. Sometimes the headache is caused by contraction of the small blood vessels in the dura. A simple example of this is the morning headache of the man who has smoked too much the night before. An obscure poison in tobacco impoverishes the tiny blood vessels of the brain. But the caffeine in a cup of breakfast coffee diiates the collapsed blood vessels and clears away the headache.

The functional headache, to which no organic cause can be assigned, is a catch-all, it must be confessed, for many of the puzzling debilities which the medical profession, with all its progress, cannot yet entirely explain. The headaches produced by high or low blood pressure, anemia, excessive mental strain and menstruation belong in this class. Also included is migraine, a mysterious complaint that has never responded to the ordinary palliative measures for headache. Migraine often begins with distortions of vision, flashes of light before the eyes; and it sometimes produces loss of memory or, stranger still, psychic visions as convincing as desert mirages. The victims suffer excruciating pain and experience nausea. Vomiting tends to relieve the headache, but after an interval of days or weeks or months it comes again.

Migraine is attributed to a variety of causes. Allergic reactions to certain kinds of foods, endocrine disturbances, heredity and psychic

factors have all been blamed. Until recently, little help could be given the sufferer; lately however, medical research has produced a substance called gynergen, also called ergotamine tartrate, a derivative of ergot, which when injected into the muscle offers relief to approximately 50 per cent of the migraine sufferers. It must be understood that the drug is not a cure for migraine, however; it is only a method of treatment.

One ailment which bewilders even the experts is the so-called "psychogenic headache," which seems to be a by-product of the emotions. It is literally true that you may have a headache because you have unconsciously hated your Uncle Elmer for twenty years. No one knows the basic mechanical explanation; the most careful clinical examination usually discloses no discernible physiologic abnormality. The pain from such a headache sometimes encompasses the cranium in a tight band or fits like a helmet over the front of the head. Hysteria may produce headache known as "clavus," a sensation as though a nail were being driven in the top of the skull. Depression, worry, unhappiness can express themselves in headaches. This type of pain seems to be associated with repressed and unworthy impulses; when rejected emotions stir in the unconscious mind, the headache appears. The therapy? Active occupation of some kind—a hobby, a captivating interest or, best of all, an acceptable outlet for the repressed impulses.

Fortunately the least dangerous headaches are the commonest. One large hospital, checking its own case histories, listed causes in this order of frequency: fatigue, hunger (both of which affect the nutrition of the cranial nerves), constipation, indigestion, alcohol, eyestrain, infectious diseases (with their attendant fevers), menstruation, nervous disorders, kidney disease, nose abnormalities, sinus infection, neuralgia and migraine.

Although occasional headaches of low intensity may be of no importance at all, chronic headache is an entirely different matter. The individual who habitually doses his headache with self prescribed remedies is downright stupid. Constipation is an accompanying symptom of many maladies; a purge may relieve the constipation and not cure the headache. Many people use laxatives as remedies whenever they have a headache. Sometimes, of course, they get relief, but it is an unwise practice. Some patent nostrums contain such antiacids as sodium bicarbonate and milk of magnesia.

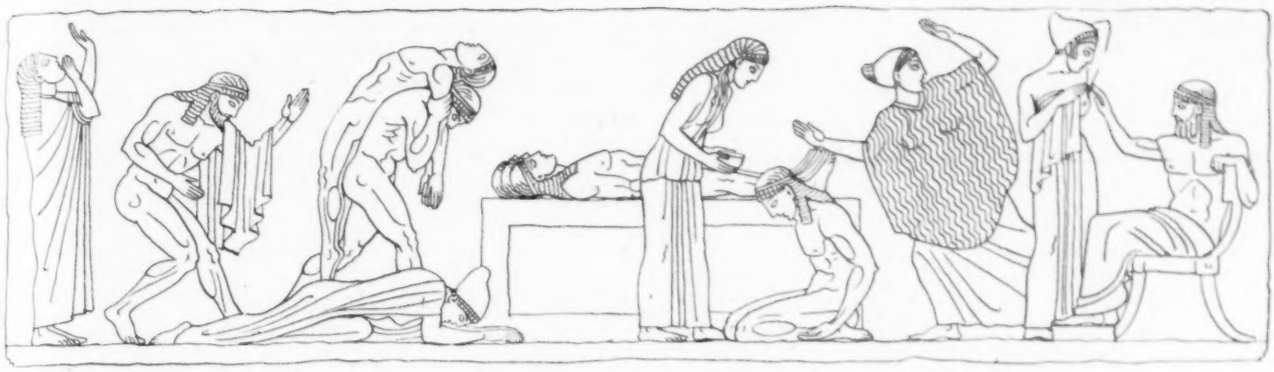
Then there are the pain killers. These analgesics and anodynes are effective in relieving discomfort, but not all of them are harmless. Acetanilid depresses the heart and is a poison if taken in sufficient quantities. The barbitals should be used only under medical supervision. Pyramidon (trade name for amidopyrine) is effective in combating pain; but under certain conditions of excessive use it has been known to produce a disease of the blood and bone marrow. It is a safe rule to question any trademarked headache remedy. Find out what's in it before you take it. And then try one of the following remedies first:

For that end-of-the-day dull throb, which may be caused by a combination of fatigue, hunger and overstress, take a small quantity of light food, loosen your clothing, then lie down in a darkened room for half an hour. A cold compress over the eyes and forehead is often effective. If you have been penned in your office, home or shop all day, you are probably suffering from the ill effects of poor ventilation and a sluggish blood stream. A brisk walk, a minor change of scene, an invigorating shower—any of these may speed up your circulation sufficiently to relieve the headache. If the cause of the headache is mainly congestion of the blood circulation in the head, a hot foot bath may draw the blood away from the congested regions, and the headache vanishes without the use of drugs.

A tranquil mind, of course, is helpful to all headaches; but a tranquil mind in these troubled, uncertain days is not easy to achieve. Any activity or hobby that brings respite or relaxation is priceless as a preventive of the headache which comes from tension too long sustained.

But, if philosophy is not enough, the sufferer may take heart from the fact that the outlook for relief from chronic headache is more hopeful than in former years. In such grave maladies as brain tumor and meningitis there has been a great advance in surgical technic. Medicine has devised means for reducing intracranial pressure, for dealing with germ infection and for hushing agonizing pain while the source of it is hunted. A growing knowledge of endocrinology has been of assistance. In expert hands the relief of headaches caused by allergies runs as high as 70 per cent.

In all events, if your headache persists, the wisest course is to let your doctor look you over. If he thumps you like a kettle-drum, takes a blood count or makes an x-ray examination of your abdomen, do not protest, "But doctor, the pain is in my head!" True, it's your head that's aching; but it's the doctor's problem—and a difficult one—to discover what is causing it.



Mysterious Epidemics in History

THE PLAGUE IN BYZANTIUM (CONSTANTINOPLE)—540 B.C.

WHAT TOUCHSTONES of human nature great epidemics are! How they bring out the worst and the best in us! And how little has character changed since the historian Procopius gave his classic account of plague in Byzantium several hundred years before the birth of Christ! As pestilence has swept down on prosperous communities, decimating them and causing widespread havoc, material and spiritual, what hitherto unknown heights of courage and depths of cowardice have been revealed! The spectacle of Death stalking ruthlessly in our midst has always brought to the surface elementary good and bad qualities hitherto unsuspected.

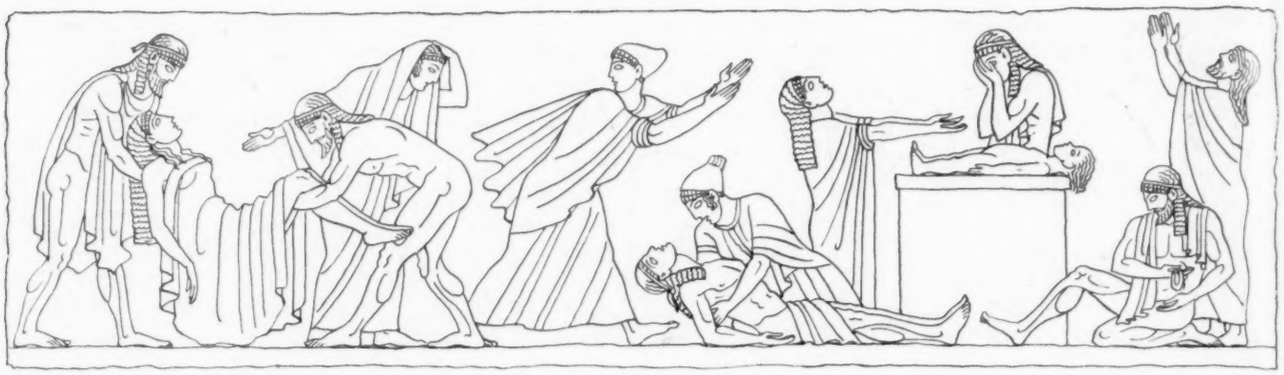
Of course some of the horrors of epidemic diseases have been mitigated by the knowledge we have acquired of their causation. But even so, when wholesale sickness and death overtake us, they retain most of their old terror, however much we may think and talk of them in terms of disinfectants or vaccines. When your whole family is down with typhoid, for example, it is remarkable how little comfort you can extract from the reflection that the trouble probably began with an unknown typhoid carrier in contact with your milk or water supply.

Knowledge is, however, certainly the best antidote to panic. It is also at the root of the conviction that an epidemic will ultimately be mastered, not only by exhausting itself as in the past but also by the deliberate intervention of man backed by all the resources of modern science. The transition from the ghostly fears of ignorance to the assured confidence which comes with knowledge will be noted as we pass from the pre-Pasteur epidemics to those of more contemporary periods.

We owe the following account of plague in Constantinople to the historian Procopius of Caesarea, in whose work on the Persian War there is a long digression devoted to an eye witness account of the plague. This account is so vivid and, in the light of our present knowledge, so true that Procopius must rank forever as a remarkably shrewd observer of epidemiologic events. The disease began, it would seem, in the important town of Pelusium in Egypt, where there was much converging traffic from Ethiopia, Mesopotamia and other quarters. Doubtless the disease had lurked sporadically for many years in remote villages and had come to a head under a combination of circumstances favorable to its development as a violent and widespread epidemic.

From Egypt, the historian relates, the plague spread into Palestine and then traveled over the world, advancing by a certain law and demanding a certain space of time in every country. It discharged its venom against no one on the way casually but spread on this side and that to the uttermost ends of the world, as if it feared lest incautiously it should pass by any corner or recess on earth. If it passed over any place, only slightly or mildly touching the inhabitants, it returned there afterward, leaving untouched the neighbors against whom it had spent its rage before. It did not depart from there before it had made up the full measure of the dead. In these words, Procopius brings home to us how slowly relentless was the passage of the plague in those days. It took about two years for the plague to travel from Pelusium to Constantinople; but if its progress was slow and apparently capricious, it was ultimately as certain of arrival as death itself.

By CLAUDE LILLINGSTON



The doomed town was at the height of its prosperity when the plague fell on it. The center of government and of the civilization of its day, its life throbbed with the prosperity its administrative position and trade brought it. The craftsmen plied their crafts, and the merchants exchanged their wares. There were of course wars and rumors of wars, but, with the fatalism of the East, Constantinople had learned to discount them to a large extent. Then the disease burst on the community with unparalleled fury. During the height of the epidemic, which lasted about three months, the daily toll of its victims was some 5,000 to 10,000. At first the disposal of the dead was a comparatively simple matter; but as the graves filled up, the space available for the thousands who died daily became less and less till at last utter confusion reigned. When all the burial places were filled within the city, the dead were buried outside it, but even here there was not room. Then the buriers discovered what they thought were convenient tombs in the towers of the Sycean walls. Removing the roofs of these towers, the buriers cast their dead into them indiscriminately, packing them with corpses till they were filled. Then the roofs were replaced. But this did not prevent "the awful stench from these dead spreading over the city at all times, but especially when the wind blew from the direction of the towers."

As we shall see later in the records of the plague of London in 1665, the inhabitants of Constantinople temporarily shelved their religious and political differences, making common cause against the dreaded enemy. Laying aside their hatred, they attended to the funerals of their dead in common and even buried those with whom they had no communion. But this transient spirit of fraternity did not solve the problem of suitable burial grounds; and in the end the usual funeral procession and funeral hymn were dispensed with, all the other rites connected with the burial of the dead were neglected, and they were just dumped on to barges on which they were carried out to sea wherever hazard might take them.

As was to be expected, the plague bred the most fantastic superstitions. Many saw visions of spirits arrayed in human shapes. To see such a vision was to be promptly smitten by the plague. It helped little to invoke the most holy names and offer up sacrifices, for many died even in the temples in which they had fled for refuge. Others shut themselves up at home and would not listen even to friends calling and knocking on their doors. For might not these friendly voices in reality be those of some demon who, if you opened the door, would spring at you and give you the plague? Some learned of the fate awaiting them in their dreams. Others fell ill without any such supernatural warning. On a sudden they would become feverish when they awoke in the morning or while they were out walking. There was no change in their color, and the body did not burn as if attacked by fever. Indeed, the fever might be so mild from morning till evening that neither the patient nor the physician suspected how great was the danger. In some cases on the same day, in others on the next, in others a few days later, there arose a bubo, an inflammatory enlargement of the lymph glands, not merely in the groin but in the armpit. In some cases the bubo appeared behind the ears and in other parts.

Procopius goes on to state that, after the first manifestations of the disease, there arose certain symptoms, the differences in which may have depended on the special constitution of the patient or "the mere will of the Author of the plague." Some were stricken with a heavy lethargy, others with raving madness. Those who were weighed down with lethargy always seemed to be asleep, forgetful of their usual avocations. If there was any one present to look after them, they would take food at times; those who had no one to attend them perished for want of food. But the delirious, unable to sleep, and thinking every one ready to murder

Bettmann Archives

THE PLAGUE OF ATHENS IS DEPICTED ON CANVAS BY POUSSIN.

them, were struck with terror and tried to flee away, shrieking horribly. Those who attended them, distracted by the trouble, suffered terribly, so that people pitied the nurse as much as the patient, not because the nurses caught the disease by coming near the patient, for neither the physician nor the layman caught the disease by touching the sick. Indeed, many who attended on or buried the victims of the plague remained, contrary to general expectation, unharmed; while others who ran no risks were seized and promptly died.

It says much for the common sense of the physicians of those days that they sought the cause of the plague in the bodies of its victims, performing one postmortem examination after another and devoting special attention to the bubos. Their contents were found to be foul, and there the matter was bound to rest for want of that bacteriologic knowledge we now possess. With no accurate conception of the true nature of the disease, it was inevitable that treatment should be haphazard. A bath did one patient good; it did another just as much harm. Of those who were left destitute of all help, many died and many escaped without it. In a word, no one had discovered any way in which one might avoid the plague by precaution or, when the plague had once been caught, how one might avoid death. That one man should fall sick was unexplainable; that one should escape seemed a mere matter of chance. If a pregnant woman caught the plague, death was sure and certain. Some miscarried; others were delivered of their children and perished forthwith. Yet it is said that three women in labor survived, though the children perished. On the other hand, there was one mother who died, but whose child lived.

Those with whom the bubos swelled and filled with pus recovered from the plague, according to Procopius, because the violence of the carbuncle had grown less and passed into pus, and "experience teaches us that this is a sign of recovering health." Commenting on this shrewd observation, Dr. W. J. Simpson points out in "A Treatise on Plague" that the large size and suppuration of the bubo indicates a comparatively mild attack, and the reverse a severe and fatal illness. Simpson also agrees with Procopius with regard to the deceptive appearance of some patients whose disease runs a much more serious course than was anticipated. On this point, Procopius is explicit:

"This I can truly and sincerely affirm, that the most celebrated physicians pre- *(Continued on page 252)*

PSYCHOLOGIC UNDERWORLDS

By DAVID SPENCE HILL

ECONOMIC, political and demagogic onslaughts on the medical profession are wastefully demanding the time and attention of skilled and eminent physicians and surgeons whose uninterrupted efforts could better be devoted exclusively to their proper scientific and humanitarian work. Much of the criticism to which the profession is now being subjected comes not only from the middle classes reacting against what they claim are exorbitant fees but also from extremists of the groups advocating "socialized medicine" and from politicians with an ear to the ground.

Still other obstacles to which the medical profession is being unnecessarily exposed have been developing for many decades. I refer to the continuance, revival or invention of superstitions and impostures which directly or indirectly concern the public health, compete with scientific medicine, appeal easily to the credulous and are permitted to thrive under the defective laws of many states.

In the present discussion of a big and vital topic I am dealing principally with those charlatanries associated frequently in the public mind with psychology rather than with medicine, although some so-called psychologists claim to be able to accomplish wonders of prevention and cure. Limitations of space prevent consideration here of the lack of provision for scientific training and the doings of those who call themselves doctors of naturopathy and the chiropractors. Such practitioners are not permitted to set up business in some states, as in New York, but they do flourish widely in this country. Other omissions from this discussion of professional underworlds are the cults of nudism, physical strength and extraordinary diets, as well as the organizations promoting the sale and the use of certain "patent medicines" by the general public.

Vocations requiring special educational qualifications, personal aptitude, moral character, public recognition and legal authorization have their fringes of undesirable men and women, their lower strata. It is a fair assumption that the majority of the members in recognized vocations, including the professions, are honorable, qualified persons. What any disgruntled or heedless critics attribute to an entire professional group on account of the greed, incompetence or criminality of individuals scattered among its membership is a grievous error. Such unworthy members, as well as downright fakers,

are a part of professional underworlds. Here are a few illustrations of what is meant:

Ministers and priests are hurt by fanatics and hypocrites.

Lawyers, by shysters and camouflaged criminals.

Teachers, by educational racketeers.

Bankers, by embezzlers and sellers of bogus bonds.

Capitalists, by would-be industrial monarchs and the idle rich.

Labor, by conscienceless agitators who sometimes fatten on sitdown strikes.

Statesmen, by mere politicians and bureaucrats who feast at public expense at state capitals as they strive to create more jobs, win votes by spending the money of the people and by intrigue perpetuate themselves and friends in office.

Dentists, by the advertising "painless" extractors.

Physicians, by the charlatans and means already mentioned.

Psychologists and psychiatrists, by numerous members of the psychologic underworld to be described presently.

At a public forum in Texas an effusive chairman once introduced me to a large audience with these words: "And now, ladies and gentlemen, we are about to learn all about the Al Capones, bank robbers, bootleggers, kidnapers and murderers. The speaker who will address you has had personal experience and has made a study of such things and therefore will now give his lecture on the psychologic underworld."

If that chairman entirely misconstrued the implications intended by my topic and exaggerated by special preparation, he nevertheless had a glimmer of the right idea. The underworlds of the different professions are populated by individuals who, like gangsters and lone felons, are either souls departed from, or total strangers to, the qualities of men and women serving in recognized professional groups. The vocational underworlds are sewers of society, and therein the criminal and pathologic types of mentality are readily found.

Centering our attention on psychology viewed as a field of science, we notice that considerable confusion exists in the public mind and on the part of many excellent physicians with regard to the nature and methods of psychology, and also as to what constitutes the "psychologic underworld." Some doctors, unwittingly exhibiting a defense mechanism, ridicule modern psychology. This is not an unnatural reaction on the part of practical doctors who in their early days of undergraduate study never enjoyed a course in a good laboratory of experimental psychology, who have never completed a systematic course under a competent psychologist and who are recoiling from some of the atrocities being perpetrated in the name of scientific psychology by members of the psychologic underworld.

Confusion in the public mind has been increased by the publicity given special doctrines promulgated by well known individuals interested in psychology—and frequently misinterpreted by the layman. Dr. John Watson's able presentation of his theory of behaviorism has had wide vogue; we hear of the puzzling "Gestalt" theory; and the mythologic assumptions of Dr. Sigmund Freud have afforded rich opportunities for the exploitation of the neurotic.

Furthermore, writers on the sidelines have emphasized both in serious and in facetious articles the points of disagreement among psychologists rather than points of fundamental agreement. Psychology naturally has wide appeal both to minds of normal balance and to those who feel the stirrings of psychopathic conditions, which they may or may not recognize. Every man knows something about his own inner life and may easily come to believe that he knows a great deal about the phenomena of feeling, thinking, dreaming and decision. Therefore, many persons without sufficient training in systematic psychology imagine that they are competent judges in matters in which even qualified psychologists and psychiatrists seem to differ radically.

As a special field of study, psychology may be traced as far back as Aristotle, and it had beginnings in the affirmations and speculations of Socrates and Plato. Its vigorous development within the past seventy-five years has been characterized by at least five principal modes of approach; namely, the philosophic, the physiologic, the experimental, the genetic and the practical, or applied. Perhaps all but the behavioristic schools of psychology would agree that as a science, psychology has come to be that body of organized knowledge dealing with consciousness wherever it can be found. Thus psychology is interested in the mental life of animals, infants, children, adolescents, adults and senescents and with the normal as well as the abnormal aspects of living organisms. (By abnormal here is meant any deviation or permanent individual difference destructive both to the individual and to society.)

Prof. Herbert S. Langfeld of Princeton some weeks ago pointed to a pronounced shift of interests in psychologic research between 1918 and 1937, so far as such interest can be measured

by the numbers of publications in the various fields. He believes that the greater emphases are now in experimental, physiologic and applied psychologies. Most attention in applied psychology has been in scholastic tests, vocational selection and guidance, child development and mental hygiene and in surveys of public opinion.

The tremendous stress laid by teacher-training institutions—normal schools, teachers' colleges, educational departments—on educational psychology, tests and statistics is not brought out by such tabulations of research studies. In our state universities, psychology is largely under the control of professors of education, which is a bad thing for this science in its broader aspects.

Consulting psychologists of both the accredited and the quack types flourish in certain other fields of applied psychology, that is, in salesmanship, advertising and personnel work. Unless psychologists and psychiatrists are required to have fundamental training and possess credentials to prove it, they become as physicians would be if they set out to diagnose and cure disease without a fundamental knowledge of anatomy, physiology, chemistry and materia medica, such as is required by medical colleges. There are prosperous quack psychologists abroad in the land who cannot prove that they have had either academic or professional training in accredited institutions. They pose as experts in "applied psychology" but in reality have no adequate psychology to apply.

They are denizens of the psychologic underworld. They step in opportunely in order to capitalize the ill health, the morbid interests and the curiosity of thousands of persons who contribute to their courses or buy their books full of inspiring promises that can never be fulfilled by these seekers after success and happiness. Although authorities in psychologic fields have sufficiently exposed the fallacies and the technics of psychologic impostors, nevertheless the exploitation of the public continues in a score of cities every winter.

Not all these men and women, many of whom are self advertising and skilled in a certain platform technic which appeals to the credulous and the troubled, claim to be psycholgoists; but practically all offer some method of benefiting people who need help by means of appeal to the mind. I am therefore classifying a wide variety of these exploiters under the caption, "psychologic underworld." Here follows a bare enumeration and characterization of twelve of the systems or schemes commonly used by these men and women:

Astrology.—A palpable fraud which has survived the dark ages.

Endocrinology.—A legitimate field of research. The meager knowledge established about how the ductless glands affect personality changes is being profitably magnified by quacks.

Graphology.—An exaggerated emphasis on the significance of the varieties of handwriting as indexes of character.

Mesmerism.—Associated with the falsities of animal magnetism. Mesmerism was exploded by a commission of which Benjamin Franklin was a member. It is not to be confused with hypnotism at the hands of psychiatrists, which almost any one can learn to induce by means of suggestion.

Mnemonics.—Memory devices that enable one to perform seemingly amazing stunts. These are sold by "memory experts." They are of no value except as means of entertainment and instruction in associative processes.

Numerology.—A senseless echo of ancient superstitions made plausible by the fascinating tricks that may be performed with numbers. These are well known to mathematicians.

Palmistry.—Sometimes called "cheirosophy." This system professes to reveal one's traits and future by the "reading" of the lines in one's hand. It is good as an amusement at pink teas where pretty girls do the reading. Palmists advertise in many cities. The telephone directory of Washington, D. C., in 1938 included advertisements of "palmists" under the title, "psychology."

Phrenology.—A thoroughly discredited system exploited by Gall and Spurzheim. It survives today, and phrenologists profess to reveal a person's capacity and mental traits by feeling the bumps on his head.

Spiritualism.—Alleged communication with the dead—always for a fee. See advertisements in any metropolitan paper—save the best.

Telepathy.—Tricks of communication that apparently are the result of mind reading without the use of sense organs.

Vocational Chemistry.—A misnomer in name and absurdity. This has been advertised by its exploiters who offer for a consideration to classify applicants as to their belonging to alleged human types which they call the "carbon," "sodium" and "sulfur" kinds of human beings.

Witchcraft.—As ancient as the Witch of Endor. This degrading and cruel belief early raised its head in Massachusetts, has existed among the Negroes of the South and has been the basis of court trials within the past two years both in Indiana and Pennsylvania.

By K. E. MILLER

LEADERSHIP
in Public Health Work

ARE leaders born or made? What is this spiritual something which has power to sway people, individually and collectively, in the direction in which we want them to go? Every one is familiar with outstanding personages, such as teachers, who instinctively inspire even ordinary students to rise above their level and accomplish great results. Like electricity, leadership is an invisible but nevertheless a dynamic force. Unfortunately, however, we cannot generate it with the same ease and certainty, nor can we accurately measure it, nor turn it on and off. Under its influence the world has been gradually transformed from the reign of blind brute force to a civilization of culture, science and respect for human rights.

Today, as in all previous time, there are conflicting and confused ideas as to what constitutes real leadership. Many of those persons whose names have been looked on as synonymous with leadership could not in the strict sense of the term qualify as leaders at all. Leadership is greatest when it accomplishes its purposes without recourse to authority. A military chieftain may be a conquering hero but not necessarily a leader. True leadership is based on mutual respect and confidence between the leader and the led. It is altruistic rather than egocentric. Perhaps the most popularly acclaimed personalities of our modern world are Mussolini and Hitler, each of whom holds the destiny of a nation in his hand; yet in the light of the foregoing standards, neither of them has any valid claim to true leadership.

One frequently hears the expression that a certain person is a born leader. Perhaps what is ordinarily meant is that the individual is endowed with a spirit of aggressiveness. Although this is one of the elements of leadership, provided it is properly controlled, it does not by any means constitute the sole quality of leadership.

Is leadership necessarily an inborn endowment, or is it possible for it to be stimulated and developed in the average person. It is natural to suppose that the native endowments for leadership are more highly developed in some than in others. Is diffidence necessarily a bar to leadership? Not at all. It is said on good authority that even the greatest actors invariably suffer from stage fright in their initial appearances on the stage. Although we can anticipate that some persons will become more outstanding leaders than others, it may confidently be said that if he is of normal mind and morally sound, any one can develop a high standard of leadership in the field of service to which he goes. To such inborn endowment for leadership

THE PUBLIC HEALTH WORKER WHO ENJOYS HER JOB REAPS MUCH SATISFACTION FROM THE REFLECTION OF HER JOY IN THE FACES OF THOSE WHOM SHE SERVES.

as one may have, may be added a conscious cultivation of these qualities, which will place individual leadership on a much higher plane of excellence than if left to its own course.

Those who are not preparing for executive positions may say of this subject, "Why should I concern myself about leadership? That's my boss's business." Nothing could be farther from the truth. While the boss must deal with leadership in a larger way than his subordinate personnel, each member of the force must make constant use of the principles of leadership in the daily conduct of his duties. With a highly developed talent for leadership any health worker with a requisite technical background will inevitably make a brilliant success of his job; but without it no amount of technical training can compensate for its lack.

Personality is difficult to define, though no human attribute is more readily sensed. Sometimes it is called "It." Some of the superficial earmarks of an acceptable personality in a health worker require that he be affable though not loquacious, a diplomat though not a politician, an enthusiast but not a crank and the possessor of a high sense of proportion. Above all, a personality capable of fastening a firm grip on his associates demands that the individual manifest a sincere interest in his fellow man.

Much depends, of course, on one's mental attitude toward the line of work one has chosen to pursue. What you get out of a vocation depends on what you put into it. What is your attitude toward your job? Are you looking to your assignment merely as a means of affording you a living? If so, you will not get far in your field of activity. If, on the other hand, you look on your job as a wide open door to a career of useful accomplishment you will not only realize your objective but reap the satisfaction which comes from noble ideals nobly lived.

One of the saddest mental states is that of the defeatist. Unless you are genuinely sold on the importance and value of the work you are setting out to do, it is impossible to inspire action in others. Faith in the efficacy of service begets ingenuity and courage to work out difficult problems. Idealism, however, must be kept within reasonable bounds. The "hitch-your-wagon-to-a-star" stuff is only for those who are up in the sky. As earthly beings we must get down to earth. Only a braggart or a fool will pursue the impossible. Another mental kink of the defeatist is the conviction that the existing social order is all wrong. Strange to say, however, he never has any logical plan to offer for its salvation. But if you find yourself a victim of a defeatist attitude in any of its aspects, health service will greatly profit by your separation from its ranks.

Perhaps the most important mental attitude is that of the open mind. Leaders must be men of broad vision, undimmed by prejudice and

MUCH OF THE TIME OF THE PUBLIC HEALTH WORKER IS DEVOTED TO TEACHING, WHICH SHE MUST DO WITH PATIENCE AND PERSEVERANCE.

Photos courtesy U. S. Public Health Service

unnarrowed by hard and fast conceptions. Broad-mindedness tempered by a conservative skepticism will protect alike against intolerance and gullibility. The history of medical science is a saga of repression and persecution at the hands of narrow-minded bigotry and intolerance. The discovery of the mode of transmission of yellow fever was delayed at least twenty years by lack of open-mindedness on the part of so-called authorities. Nothing can be more stifling to progress in discovery than the lack of an open mind. Moreover, the mind which is closed to any idea except those originating within itself is necessarily egocentric and takes refuge in intolerance, which is the label of mediocrity. Subordinates, as well as the general public, are quick to discern the inferiority complex arising from such a situation; and when this happens, leadership is lost.

Mental composure or imperturbability is the antithesis of fretfulness or needless expenditure of mental energy, which should be conserved to meet the actual rather than imaginary problems of life. Mental composure is essential to clear thinking and accurate deduction. We must, however, avoid the other extreme of laissez faire. Foresight and forethought bear a close relationship to alertness; but mental energy consumed in chasing ghosts is unprofitable.

Mental elasticity is a product of discretion and judgment, which are virtues usually acquired only as a result of seasoned experience. Consequently mental elasticity, which should be sharply distinguished from laxity, is rarely found in beginners. When given an objective to reach, the conscientious beginner takes his orders in hand and proceeds to carry them out to the letter. It must be remembered that it may require much less work and grief to reach the objective by going around an obstacle than by following a straight line through it, provided that in so doing no principles are sacrificed. By this I do not mean to counsel vacillation or duplicity. Reaching the goal should be the constant purpose in mind. The manner of reaching it, if honorable and upright, should be a matter of secondary importance. So long as no policy is violated, subordinates should try to exercise ingenuity in accomplishing their objectives.

Gossip and destructive criticism are products of an unhealthy state of mind. It does not require any high degree of intellect to criticise. Any fool can do this, and most fools do. At all times and under all circumstances, gossip and petty faultfinding are dastardly. The discussion of personalities is always dangerous as it rarely ends without injecting a "but" somewhere in the course of the conversation. The following is not only a splendid classification of minds but furnishes a most reliable safeguard against gossip and criticism:

> Great minds discuss ideas;
> Mediocre minds discuss things;
> Small minds discuss people.

Character is the result of a combination of qualities possessed by each individual. The type of character may be strong or weak, superior or inferior or of some intermediate grade. It may be stated as an axiom that the level of leadership in any individual cannot rise above that of his personal character. The term "character" as here employed connotes vastly more than morals. It comprises all those attributes which have to do with personality and which constitute the guiding forces of the individual's life. A survey of the elements of character determination should furnish the grounds for a wholesome personal inventory.

Common sense has nothing to do with knowledge. One of the great difficulties connected with technical training in public health is the very real danger of too much knowledge. We must meticulously guard against the spawning of educated fools. Common sense will preserve the proper perspective and appreciation of relative values and will be enhanced by knowledge. Common sense implies intelligence which leads to versatility and adaptability in meeting any situation. Simplicity, closely allied to common sense, in meeting any situation, is the antithesis of affectation, pomposity and superiority complex and in final analysis is the homely art of being human.

A sense of humor is something different from a sense of the funny. It springs from keen insight and impartial self judgment which clearly perceive the foibles and frailties that render all mankind ridiculous on occasions and which show the futility of magnifying inconsequential things. It begets proper modesty and is the foe of boastfulness. It deflates the ego as nothing else can do. It prevents sensitiveness to imagined slights; it is a sure cure for peevish fretfulness under adversity; it is a sovereign preventive for the blues, crepe-hanging pessimism and an ingrowing grouch.

A sense of humor is a splendid antidote against stampede. Although Abraham Lincoln is pictured as a somber and brooding soul, his sense of humor often struck like lightning against the pompous asses of his time, particularly when they sought to force him to some rash decision. When demand was made on him for the dismissal of Grant on account of his drinking, Lincoln replied by inquiring the brand of Grant's liquor so that he might recommend it to his other generals.

Perhaps the keenest piece of repartee of all time is that of Jesus wherein he replied to the mob who sought his sanction to the stoning of a woman charged with adultery: "Let him that is without sin cast the first stone." It is recorded that the mob melted away without a stone being thrown. Though obviously this incident is a masterpiece of stinging sarcasm, a sense of humor is plainly visible under the surface. One can readily picture the inward amusement at the severe discomfiture of the mob.

In public health work similar situations not infrequently arise. Demands clothed in the robes of a righteous cause come to health workers for immediate and unequivocable action. Beware of the Militant Crusader. He is prone to mask ulterior motives under the cloak of piety. Your sense of humor based on a perception of human frailties may serve to throw him off guard and expose the sham. In any event, nothing is lost by a quizzical frame of mind, which will at least permit of a deliberate appraisal of any situation and afford a powerful safeguard against stampede.

Although a sense of humor may be capable of warding off hasty and precipitous action, the art of applying it consists in leading the individual to discern the ridiculousness of his own situation while at the same time according him a respectful and sympathetic hearing. Ordinarily the proponents of a scheme, be it ever so wild, have convinced themselves of its virtue and are therefore sincere in their sponsorship of the same. It is consequently a fatal error to make sport of any one on a serious mission or to give the impression that this proposition is lightly or frivolously regarded.

In the effort to preserve a sense of humor at all times, there is a real danger of being branded with the stamp of levity. It is no great rarity to find among public health workers certain individuals who are earnest and sincere in their intentions but who have the misfortune of creating in the public mind an impression of frivolity. In spite of all their sterling qualities it is exceedingly difficult for such persons to overcome the stigma of immaturity and to make the public feel that they are quite grown up.

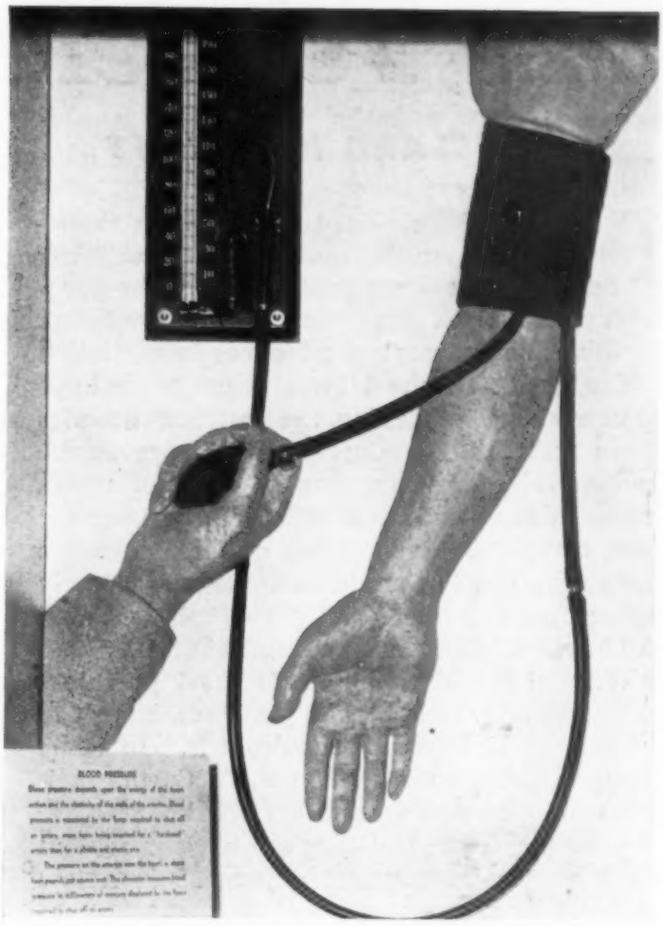
Health workers must be fired with zeal for the cause they represent and should believe in it with all their heart and soul yet not take themselves too seriously. Rome wasn't built in a day, and public health is not going to drive out all health hazards overnight. All public health workers must be reconciled to doing their bit honestly and faithfully with the realization that even if they were to pass out of the picture tomorrow the cause of public health would not be lost. Just as health workers are to be on guard against high pressure tactics on the part of the public, the public reacts badly to the same measures of compulsion from health authorities.

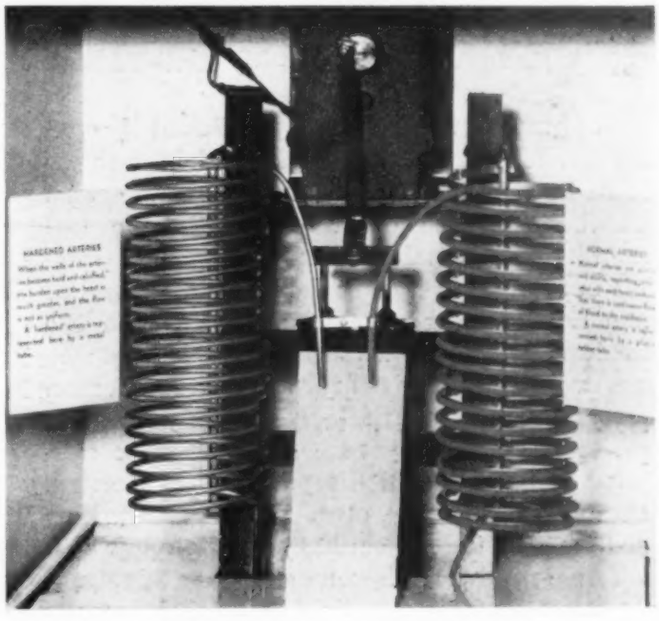
(Continued on page 283)

MECHANICAL AIDS to the PHYSICIAN

AT the Golden Gate Exposition in San Francisco, part of the exhibit of the American Medical Association dealing with medical education portrays some of the mechanical aids that have come to the hand of the physician. This does not mean that medicine is becoming a mechanized profession, for no instrument can take the place of experience and good judgment. Instruments and mechanical equipment are used to supplement information gained by other methods in confirming or denying a suspected diagnosis; they are used to facilitate treatment which might be accomplished less successfully by other methods.

The exhibit includes a clinical thermometer together with a skin thermometer by which visitors may ascertain their own skin temperatures; a hypodermic syringe with drawings showing how it is used; a respirator or "iron lung" with a small model to be manipulated by the visitor, and a microscope so placed that the visitor may use it. Some of the instruments are shown with bas-relief figures of physician and patient with the instrument in place. Among these are the gastroscope for inspecting the interior of the stomach, the proctoscope for inspection of the rectum, the cystoscope for inspection of the bladder, the ophthalmoscope for examination of the interior of the eye, the nasopharyngoscope for examination of the nose and upper pharynx, the pelvimeter for the measurement of the pelvis and the ear speculum for examination of the ear. Among other items are the stethoscope, x-ray apparatus, sphygmomanometer or blood pressure apparatus and traction equipment for broken bones.





THE SPHYGMOMANOMETER, OR BLOOD PRESSURE APPARATUS, IS USED TO DETERMINE THE PRESSURE OF THE BLOOD IN THE ARTERIES, AS ABOVE. LOWER PICTURE DRAMATIZES IT BY SHOWING A RUBBER TUBE WHICH REPRESENTS A NORMAL ARTERY GIVING UNIFORM FLOW AND A METAL TUBE WHICH SHOWS HOW BLOOD MAY COME IN SPURTS FROM A "HARDENED" ARTERY. A MOTOR PUMPS COLORED WATER THROUGH THE TUBES.

By THOMAS G. HULL

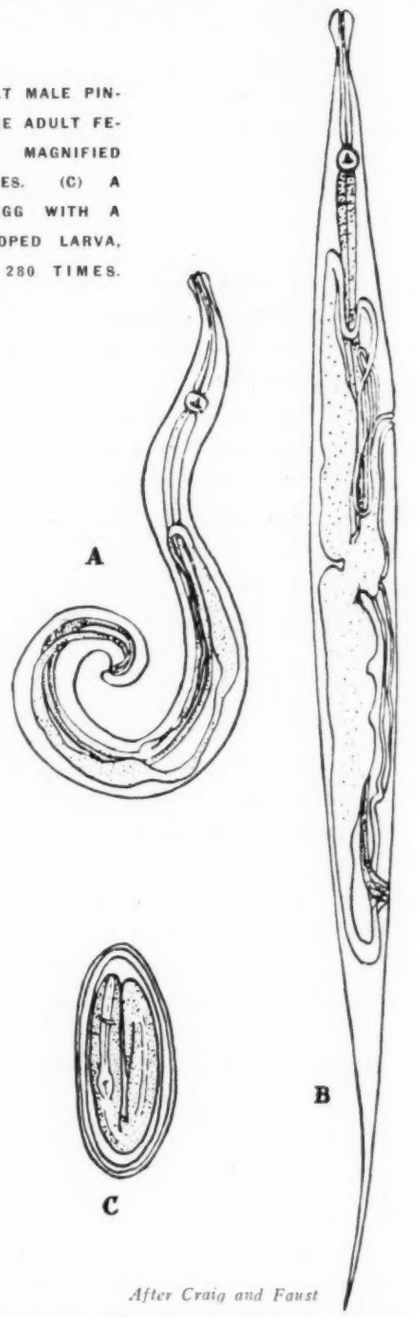
The Pestiferous Pinworm

By WILLARD H. WRIGHT

IN THE MORE civilized parts of this changing world, man has managed to erect fairly adequate barriers against most of the parasites which attack him from within and without. In this country, marked advances in sanitation and a protective meat inspection service have been responsible during the last few decades for a remarkable reduction in the prevalence and severity of infestation of most of man's undesirable boarders. But the conquest has not been complete. At least two of these parasites have managed to remain in ascendancy largely because of ingenious biologic adaptations and the habits of the human animal himself.

Without doubt the parasite most prevalent in this country today is the pinworm, known to science as Enterobius vermicularis. In some groups studied in Washington, D. C., the incidence of pinworm infestation has been higher than 50 per cent. Not only are these persistent little beggars found among persons in a low social-economic status, but they manage to worm their way into the best social circles, so that well-to-do families with high sanitary and hygienic standards are frequently troubled with these offenders.

The pinworm is a highly efficient propagating machine. Because it has taken a short-cut in its life cycle, it has managed to persist and thrive where other parasites have lost ground. The females of most intestinal parasites deposit their eggs in the intestinal canal of their host, and these eggs pass out with the waste material. With the use of sewerage systems or other methods of safe disposal of human excreta, there is little or no opportunity for these eggs to infest other persons, and thus the continued propagation of the parasites is blocked. Not so with the pinworm. This parasite has hurdled all modern sanitary barriers. When the female pinworm becomes filled with eggs, it migrates out of the intestinal canal and deposits its eggs on the skin around the anal region. A single female may contain from 10,000 to 15,000 eggs. On treatment, as many as 5,000 worms have been recovered from a single individual. Thus it will be seen that enormous numbers of eggs may be scattered by infested individuals. In a few hours these eggs develop to the infective stage; when taken into the mouth, they hatch in the stomach, permitting the escape of the young worms, which go on to development in the small and the large intestine.



(A) THE ADULT MALE PINWORM; (B) THE ADULT FEMALE, BOTH MAGNIFIED SIXTEEN TIMES. (C) A FERTILIZED EGG WITH A FULLY DEVELOPED LARVA, MAGNIFIED 280 TIMES.

After Craig and Faust

Opportunity for infestation is almost limitless since the eggs are scattered on night clothing, underwear, bed linen, wash cloths, towels, lavatory bowls, bath tubs, toilet seats and elsewhere throughout the household. They have even been found on the floor of bedrooms, on the furniture and on the floor of living rooms, and elsewhere in dwellings sheltering infested

individuals. Under such circumstances, it is not to be wondered that once the pinworm invades a household, the worms usually continue to spread through the family until several or all members of the family are infested. This multiple infestation in the household renders control a difficult procedure.

The symptoms of pinworm infestation vary greatly in accordance with the degree of infestation and the nervous temperament of the individual. Some persons, who are only lightly infested, are not aware that they are harboring the worms, and others of a phlegmatic disposition, even though heavily infested, apparently present few, if any, visible symptoms of infestation. On the other hand, some persons are highly susceptible to the bad effects of these worms.

Pinworms may migrate at any time during the day or night, but they come out most frequently during the evening hours and after the individual has retired for the night. The passage of the worms through the anal canal provokes sensations variously described as pain, itching or tickling, depending on the nervous constitution of the individual. The crawling of worms on the skin after emergence provokes in some persons an intolerable itching, and such persons appear to be definitely allergic to pinworm material. Young children are frequently awakened by migration of the worms and complain that "something is biting" them. These migrations are responsible for restlessness, disturbed sleep, grating of the teeth, exaggerated movements during sleep, and other evidences of nervous irritation.

Many individuals infested with pinworms complain of vague abdominal pain and discomfort. Some patients experience early morning nausea and vomiting, particularly on arising or before arising. Pinworms are found in the appendix with a fair degree of frequency and have been designated by some writers as a cause of appendicitis. The evidence for this, however, is not entirely convincing. Pinworm infestation is apparently responsible in some individuals for chronic constipation which clears up after treatment. While enuresis, or bed wetting, may be due to a variety of causes, there is no doubt that in some cases pinworm infestation is the responsible factor.

The marked tendency of female pinworms to migrate on to the vulva and into the vagina is evidenced by the finding of pinworm eggs in these locations in many female patients. Migrations to these parts result in itching and irritation which may be followed by vulvitis, leukorrhea and masturbation.

Finally, there is a chain of symptoms frequently linked with pinworm infestation but difficult to prove as being definitely due to this cause. These symptoms are those of general hyperirritability, such as biting the finger nails, picking the nose, sucking the fingers and other reflex habits. Heightened nervous tension, greater emotionalism and increased irritability apparently occur as the result of pinworm infestation, possibly following the absorption of toxic products by the blood stream or as a result of the constant irritation. There is some evidence to indicate that heavy pinworm infestations may result in lowered intellectual performance in some children, and that others may develop psychoses and an antisocial attitude.

One such case was that of an 11 year old girl. This child was having difficulty with her school work and had developed an acute sense of futility and discouragement. The pinworm infestation was so heavy that the worms migrated frequently during school hours, causing such intense itching and annoyance that she was obliged to leave the room frequently. Her sensitive nature forbade any disclosure of her predicament to her teacher, and the teacher, believing that the child was malingering, became extremely severe with her. To add to the emotional conflict engendered in the child, her schoolmates learned somehow the nature of her difficulty, as children have the faculty of doing, and teased her incessantly. Consequently the child's school life became a nightmare of torment. Fortunately, through suitable treatment, the pinworm infestation was controlled, and the child's outlook on life became that of the normal healthy individual of her own age.

In a small series of patients receiving treatment for pinworm infestation, a survey was made two months after treatment to ascertain whether any noticeable change had taken place in the scholastic standing and general social attitude of the patient. Information obtained from the teachers of these patients indicated that over 40 per cent of them had improved in their studies and were more attentive and cooperative. Many of these individuals showed marked changes for the better in their general attitude toward other children and in their nervous temperament. The teachers reported that these pupils got along better with their playmates, were less quarrelsome and less emotional and seemingly were capable of better self control. While such intangible qualities as nervous temperament and social behavior are difficult of measurement by any known standard, it would appear *(Continued on page 282)*

What Is Your Community

BEFORE PASTEUR'S time, men died like flies before the scourges of disease. Epidemic death was accepted as inevitable. Nothing could be done to prevent it.

Then came the discovery of microbes. Contact with infected persons, which was discovered to be the secret of disease transmission, became also the means of preventive control. As a result a whole new code of ethics regarding contacts of people came into being. To expose others wilfully is now an offense punishable by law. Elaborate preventive measures include care of water and milk as well as quarantine and immunization. Our very manners of coughing and sneezing, of eating and drinking have changed.

Even since Pasteur's day certain social factors have contributed increasingly to the need for preventive control in disease transmission. One of the most inescapable of these conditions is the increasing concentration of population, which has multiplied many fold the hazards of infection. We are brought into contact today with utter strangers in crowded stores and restaurants under conditions more favorable to the transmission of disease than are found in the privacy of our own homes. Because of such conditions, preventive principles are accepted universally as one of the essentials of modern living.

These factors play a crucial part in what we must come to realize is another type of infection, though one much less generally recognized than physical disease—mental and character maladjustment. Time was when a devil possessed him who was guilty of mental or character deviation, just as retribution came to men in the form of plagues; but now we don't blame devils. A child is born neither in sin nor trailing clouds of glory. He is simply a biologic creature born with certain potentialities, among them the capacity to learn. What kind of person he becomes depends in large measure on what happens to him—what kind of home he possesses and who become his friends. Diseases of behavior are transmitted by social infection. Mental disease follows on intolerable conditions of living; mental defect is associated to a great extent with impoverishment of stimulation; delinquency comes with neglect and wrong guidance. So says modern science.

Frequency and promiscuity of social contacts have increased tremendously. The newspaper, radio, movie and automobile keep the most isolated rural home in close touch with the world. Nor can we choose the society we keep. Little Jack comes home with a mean word he learned from Jimmy's father. But Jimmy's father is associated with the family in business and cannot therefore be avoided. Bill was drunk last night. He must play the game or be dropped by his crowd. Economic pressure keeps men and women from parenthood until

Doing for Its Children?

By HAROLD M. WILLIAMS and ELEANOR SALTZMAN

they are too old for normal relationships with their children, as it previously kept them overlong from marriage. It is the dilemma of modern living that either we must attempt the impossible by completely isolating ourselves or we must meet and mingle in the world as it is, for better or for worse.

The plain truth is that we cannot afford to ignore how the other half lives. As in contagious physical disease, we must recognize that there are carriers of social infection in the compulsory school population, in the normal range of recreational contacts and in our ordinary activities of living.

Nor can our social concern be purely selfish. In every community there are those whose only fault is to have been born into unfortunate circumstances. Others, though they have reached the age of responsibility, are still carrying, as they have carried all their lives, this load of misfortune. Men and women at the extreme carry an inheritance of poverty, neglect and bad social conditions extending backward for many generations.

Here is a problem every community must face. Public health commissions have taken us far toward alleviation of our physical disease contagions. Policing and traffic regulations help us go to and from our respective businesses in an orderly and safe fashion. In this present problem, too, a regulatory program can help us heal the beginnings and spread of social infection among our people. It is only when this is done that we will emerge from the pre-Pasteur era in social relations.

First and most important of all considerations in such a program would of course be the child. A child belongs, first and fundamentally, in his home. But in spite of this the home can never be his sole point of dependence. Few parents feel themselves infallible to this extent. If this is the case even with the best homes, what of the millions of children at this moment either in the worst homes or in no homes at all? At best, no one can be exclusively a member of a home. He must also be a school child, a job holder, a citizen. At worst he has no home life at all. Who, then, shall properly carry on where the home leaves off? This, we contend, is a function of the community.

A child first experiences life in terms of family, neighborhood and community, and this horizon is not broadened significantly for him until he leaves to go to college or to find a job. Even then, in all essentials, he simply moves to another community. Throughout life the community may, and usually does, remain as a powerful dynamic factor. It is the telescope through which the ordinary man views problems of national welfare.

Note how the situation works out in one type of problem, sending a delinquent boy to an institution. To send the child from the community in which he has oriented himself emo-

tionally can mean only that he loses still further the feeling of belonging within the group. A community which sends its child off to a reform school or military institution is doing precisely what the father of a generation or two ago did when he commanded his sinful daughter never to darken his door again. Here is a child already revealing that he feels himself rejected —and he is sent away to an institution. The reform school which receives the child, no matter how skilful and conscientious its personnel, is battling against heavy odds. But the situation is worse than this.

That the institution is only a temporary stopping place, every child in it knows. When the period of institutionalization is up, he immediately becomes a community problem again, and he returns to the group with the memory of his previous summary rejection. Under the shadow of this handicap he begins the reorganization of his life. Nor does he need to depend simply on memory. The faces of his prospective employer, parolee and associates remind him of the facts. Even the law has recognized this handicap by its insistence on informality and lack of publicity in juvenile court cases. What the whole situation means is that the community confronts a child who has already shown lack of stamina with a situation demanding more courage than most of us possess.

In general, adjustment is peculiarly a community problem. Federal and state aid may be helpful, but the actual case work must be done in terms of the specific child in the specific community. This fact is as inescapable as the facts of geography and human nature.

Community assumption of such a relationship with its children is not a new idea. The story goes at least as far back as Sparta. In every case these programs have worked up from the little group, the particular unit in Russia and among the Fascists, the Eton and Rugby of England, to the full emotional fixation of loyalty to the Soviet, the Fascist state or "the spot that is forever England." Luckily, America has been comparatively free from such imperialistically planned programs. Let us make the American plan the deliberate cultivation of a program of community child accounting.

There are many plans of community welfare work, but the specific plan is relatively unimportant. Ongoing programs have been well summarized in a recent publication of the Office of Education, U. S. Department of the Interior, under the title "How Communities Can Help" (Bulletin 18-I, 1936). Two key principles determine success or failure: coordination of effort and adequate child accounting.

Coordination is necessary if only because there are so many diverse ills which assault the human organism. They range from a reading disability to postencephalitic symptoms, from sheer poverty to the incipient neurotic conditions of wealth and idleness, from syphilis to obsessive fears. No one can master all the skills necessary to meet all the emergencies that may arise. Physicians are generally happy to confine their practice to physical ills; teachers must teach; social workers are forced to spend most of their time on cases in which relief is the most immediate need.

Then, too, all forces must coordinate to avoid needless reduplication of effort. Families have been known to make a business of exploiting every separate resource separately. Yet others genuinely in need but reticent about seeking aid may be overlooked by half a dozen agencies working independently. These facts were recognized long ago by the Associated Charities.

By cooperation all the community's resources can be pooled to meet the needs of each particular case. One patient will be referred to a hospital for tonsillectomy and another to a relief agency for direct aid. A suitable boarding home must be found for a predelinquent boy, and the supervised playground and recreation center must try to bring a fourth child into more normal social relations. In each case, however, the work is most effective where some central group analyzes the situation and refers the case to the group best able to meet the situation. All agencies must coordinate. No single agency, except the court, has the legal status necessary to cover all cases; nor can the judge have either the special resources of training or the time necessary for administration.

Child accounting means simply that every child in the community has been given the serious attention of the community as a whole in its program. It is the technic of the census taker and assessor applied to problems of welfare. In many places routine medical and dental examinations in the schools and the "summer round-up" already have the principle in operation as far as physical health is concerned.

Without this type of child accounting, we are back in the days before birth certification and the school census. How many cases of underprivilege, mild and severe, are there in your own neighborhood? Curiously enough, both the best social risks and the most serious sources of infection are the least likely to come to light under ordinary casual administration. Families with sufficient morale to attempt to fight the battle through on their own *(Continued on page 284)*

For PATIENTS and Their Families

Convalescent care at home may produce new problems of management for the novice "nurse." From ELIZABETH W. HARD come tricks to untangle the turmoil

THIS need not be read if your family indulges only in short, acute illnesses. But if there is a case of chronic illness or one that stretches into weeks, there might be suggestions here which would prove helpful.

In any long sickness there are two sides to be considered. The patient of course merits first consideration, but the comfort of the family should not be neglected. Unless the patient is a hopelessly selfish beast, he will want to cause as little trouble as possible. To the degree to which he knows the family life is disturbed, just so will it vex his soul. The ideal for which to strive is the maximum of ease and comfort for the patient with the minimum of disturbance of family life. There is nothing more trying than to overhear remarks or see harassed faces, when you know you are the helpless and unhappy cause of extra work and worry.

To start at the beginning and the most vital thing to the patient—there is the bed. The type of course will depend on the illness, whether it is as soft as desired or has a firm mattress or even boards over the springs. If possible have a hospital bed. If the patient can sit up, there are various gadgets at head and foot which make it much more comfortable. But the patient may prefer a well liked bed, perhaps double size, which is convenient for holding extra books, games or knitting without danger of dropping them off the side. If this is the case,

elevate the bed, with bricks or wooden blocks from a lumber yard. Of course have enough at each corner to make it firm, so that a slight push won't let the bed down with a terrifying jolt. Standard hospital beds are 27 inches high, exclusive of mattress, and this lessens the strain of waiting on the patient. Generally, too, it is a better height for looking out of windows, and in summer it is cooler. If the patient is out of bed during the day and has difficulty getting back into a high bed, use a firm chair or a child's self help step. The comfort of the bed is of the utmost importance to the patient in it, but the height is necessary for the survival of the one who does the nursing.

In making up the bed the draw sheet is a help. If necessary, use a rubber sheet under this. Get one the width of the bed of light weight stork sheeting in preference to the heavier weight used in hospitals, as this is cooler and does not wrinkle as badly. At either end stitch firm cloth, which can be tucked under the mattress or fastened with safety pins. In fracture cases, especially with elderly persons, it is an advantage to have the mattress divided. A midsection is cut in half so that it can be withdrawn from either side and the bedpan inserted without disturbing the patient.

If the rubber sheet is not necessary, the draw sheet is a help. It can be a single sheet turned sideways or a double sheet folded with the fold under the pillow. The top sheet can be utilized in this way for another day. It is much easier to remove the draw sheet if a little food is spilled or if crumbs are in the bed than to take out the lower sheet. It rests the patient to have this sheet drawn taut at intervals, and in hot weather it is pleasant to have it pulled through to a cool spot.

Sometimes covering can be a great annoyance. If it is too heavy it is uncomfortable and over a long period might cause toe drop. Aside from a regular or home grown bed cradle to hold up the weight of the bed clothes, wire clothes hangers can be useful. The bed clothes can be draped over the foot of the bed, then fastened over the bars of the hangers with snap clothes pins and the hooks fastened to the foot of the bed. This keeps the weight off the feet and yet keeps the covering in place. Several hangers can be wired together, tilted at the foot of the bed, under the covering and so act as a cradle.

A sand bag made of firm ticking, which prevents unpleasant leaks, is a comfort. It is agreeable to rest the feet against, prevents slipping down in bed and if slowly heated holds its warmth for several hours. In certain cases it is helpful in holding the patient in position when turned on the side.

Pillows also aid in maintaining a position, as well as comfort, when applied in necessary spots. A large one under the knees adds greatly

to the comfort of weary or aching legs. If the patient is able to sit up and there is no hospital bed, use a sling. Fasten a rolled sheet to the head of the bed on either side, put a pillow in it, and let the patient sit as in a swing. This will give him much more comfort and stability than trying to use a back rest that allows him to slip down in bed. If the bed is wooden with no convenient place on which to fasten the sheet, put in two large screw eyes, and use a piece of canvas or ticking with snap hooks sewed in the ends. A suit case or reversed straight chair gives good support for the back rest itself. Don't prop the poor patient up with pillows and expect him to stay either upright or comfortable.

At the head of the bed, the useful paper bag appears. Tear a strip down a few inches along the corners, fold in these edges and fasten it by

the long side to the mattress with safety pins or to the bedside table with adhesive. It can be used for discarded cleansing tissue, empty envelops or scraps of paper or cloth if the patient is cutting out paper dolls or doing a little sewing. It helps both the patient and the family.

Also at the head should be a small bag, preferably one of those with a permanently open mouth. Handkerchiefs are perpetually being lost in bed but can be readily available in this easily accessible bag. It can also hold a nail file or small knife or extra hair ribbon.

Of course there should be a bedside table. One with a drawer is better. It may have to be elevated to be the same height as the bed. If that is the case it should be heavy enough so there will be no danger of toppling over.

There is another table which adds comfort and convenience, which is especially useful if the patient is a child but is nice for any age. This other table should reach across the bed. It can be secured from any hospital supply house; it has a raised center panel to be used as a book rest. These are metal with large rollers. A wooden one can easily be made, with the advantage that a narrow ledge can be added which prevents toys from falling off or books from being pushed over the edge. It should be made of light wood, about 14 inches wide and, of course, high enough to go over the bed. If the patient is allowed to sit up to eat, it can be used at meal time. Children can run their toys on it, and adults will have plenty of room for books, stationery and flowers. It can be pushed to the foot of the bed and be out of the way, yet easily available when not in use. Only one who is chained to the bed realizes the joy of having as much as possible in reach, so that he won't have to be continually calling a member of the family to get wanted possessions.

The room at large should be as pleasant as possible, sunny in winter and cool in the summer. If the bedrooms do not fill the requirements, try the dining room, living room or even kitchen. Furniture can be shifted, but the patient has to "stay put" and should surely merit the best. It depends on the character of the patient whether the room should be easily accessible so as to save steps or remote enough so that ordinary family confusion would not be disturbing. An electric call bell is easily installed and is a great saving of unnecessary steps and eliminates weary waiting or vociferous yells. An adjoining room, adjacent porch or even convenient hallway affords great relief and change if the bed can be occasionally shifted or the patient moved. A new outlook is highly exciting after months of seeing the world from one side.

If this is not feasible give the patient new scenes in the room. Change the pictures; place a screen near the bed, and pin on it prints or magazine covers. Have growing plants in the room, anything from rye grass to sweet potato vines. It adds interest to existence to see growth. But don't have too many plants or too highly scented flowers.

In fact don't have too much of anything, including furniture. It will take much longer to clean the room, which may prove an exhausting process for all concerned. Then the mere sight of a crowded room is wearying. On the other hand you don't need to keep the room unpleasantly immaculate. Don't pounce every time there is a wrinkle in the bed spread or flutter every time a piece of paper misses the "catch-all" bag and falls on the floor. The bedroom is the patient's permanent abode. Let it be a palace with princely freedom, not a prison, and the satisfaction of the patient will be reflected in the whole family life.

Black Box

***"Too much acid" seldom besets the average man on the street; he would have to eat something like 18 pounds of oranges to change significantly the delicate acid balance of his body, says* JAMES J. SHORT**

THE WHOLE WORLD, it would seem, is suffering from "too much acid." The public has become acid-conscious. Full page magazine advertisements scream at us to "alkalize." Billboards and train placards shout warnings of dire consequences from acidosis. Citrus fruit promoters swell the chorus, while, alas, even health periodicals join the refrain. It would seem that alkalis and alkali-forming foods without stint constitute a panacea for whatever ails you—from Spanish influenza to housemaid's knee, from high blood pressure to hemorrhoids. Little wonder, then, that so many fear their brains, blood and body tissues are being excoriated by the blistering acids which so relentlessly pursue them. Colitis it was in the "gay nineties," appendicitis at the turn of the century, focal infection in the post-war period; but now "acidosis" holds the center of the stage.

And it must be confessed that all of life's vital processes seem to be intimately associated with acid formation. Acids, acids everywhere—and in amazing quantities. When starch is burned, acid is produced. When fats are metabolized, acids are formed—myriads of them. The same is true of proteins. In fact, one can't move a muscle without producing acids. Whether we like the idea or not, we fairly teem with them.

What to do? How to prevent these burning acids from destroying our "innards" altogether? And why have we not been completely destroyed ere this? How has the human race managed to survive for so many milleniums with such a state of affairs? And how have some individuals managed to attain a fair degree of longevity despite the ever haunting specter of acidosis?

Take courage, all of you sufferers from "acid conditions." The situation may not be so desperate as it seems. The worst that can happen to the great majority of you is the evil effect

The "ALKALIZE" NOTION

produced by the worry you give to it. For the inside story of the acids shows that they are not really so black as they have been painted. In fact, without their constant lavage or bathing of our "internal environments" we could not long survive in our struggle for existence.

What is the inside story? It is a long one—learned through years of patient investigation by clear thinking, hard working, painstaking men and women in the fields of physiology and biochemistry. The remarkable achievements of the past twenty years in the previously obscure field of human metabolism is a brilliant chapter in medical progress.

Let us take a brief excursion through this acid factory known as the human body. What are these acids? How are they produced? What are their dangers? What becomes of them?

The acids to which body tissues are exposed are legion. Lactic acid, amino-acids, uric acid, hydrochloric acid, carbonic acid, fatty acids, acid salts—the list is very extensive. And, despite the terror so frequently engendered by their contemplation, let no one be unduly alarmed. Not only are they harmless, but most of them are actually essential to life and health. Considering their essential nature the acids have been greatly maligned.

When starch is burned, carbonic acid is produced. It is carried to the lungs by the blood where it decomposes into carbon dioxide gas and water. The lungs excrete the carbon dioxide, and most of the water is disposed of by the kidneys. This acid, then, is easily removed provided that the circulation is good and the lung function adequate. Its retention in too great quantities causes blueness of the lips, face and hands and gives a feeling of "shortness of breath." This is the reason people with poor circulation from heart difficulties become so easily out of breath. It also explains our increased breathing after exercise. A certain amount of carbonic acid in the blood is essential to our health and well-being. Too rapid and complete removal of this substance such as could be produced by long continued overbreathing results in a muscle spasm and convulsions. The regulation of our breathing depends on carbonic acid. We must, therefore, regard it as a friendly acid.

Other friendly and essential acids found in the blood are lactic acid and amino-acids. The first is produced whenever muscles undergo activity. It has been found not only to be harmless but also to be essential to muscle metabolism, especially to the heart. The amino-acids are produced from protein foods, and from these the body builds and replaces its muscle and gland structure.

As to hydrochloric acid, this does not occur in the blood as such but is produced by the glands of the stomach for the digestion of food. It is an essential substance for digestion.

Uric acid was once the "bogey" of all sufferers from rheumatic and neuritic pains. Years of intensive chemical and clinical research throughout the world were devoted to the uric acid problem. We do not hear so much about it any more. The reason is that, except in frank cases of gout, which fortunately are rather rare in this country, it hasn't any great significance.

Acids, which under certain conditions may be a foe to health and extremely dangerous, are the fatty acids. These are produced from the incomplete combustion or burning of fats in such conditions as starvation or uncontrolled severe diabetes. In diabetes the fatty acids have been the cause of a great many deaths. Under normal circumstances fats are completely burned to produce carbonic acid, even as are carbohydrates. It has been well said that fats burn only in the flame of a carbohydrate. When carbohydrates are not being burned in the body either through starvation or in severe diabetes, the fats also are not completely burned. Under these circumstances the

acids accumulate in the blood and rapidly deplete the body's alkali reserve. If this process is carried to an extreme degree, the sufferer eventually lapses into a coma from acidosis and his condition becomes critical. Fortunately, in diabetes, where most of these cases have occurred, we now have a potent weapon to combat this condition in the form of insulin. This condition of true acidosis does not occur under ordinary circumstances and conditions of life.

Other acids are produced during the body's vital functions. These, for the most part, are eliminated promptly through the kidneys. Huge amounts are thus disposed of daily through this channel, and no ill effect is produced either to the tissues or to the kidneys.

The problem, then, is not one of acids but of equilibrium—the so-called acid-base, or acid-alkali, balance. There are many examples of "balance" in human physiology. Consider, for instance, the temperature regulation. Heat is being constantly produced in the tissues and lost from the body surface. Yet a very steady temperature is maintained in blood and tissues despite wide fluctuations in the amount of heat production and heat loss. A wonderfully delicate heat-regulating mechanism maintains this equilibrium under ordinary conditions.

Fluid regulation is another example of remarkable physiologic equilibrium. Excess above the body's needs is promptly eliminated through natural channels, and no one worries about the question of an extra glass or two of beverage, nor indeed does he give it a thought. Possibly the time may come when we will be made fluid conscious by some advertising writer with the "health appeal" approach in promoting his product.

But perhaps the most delicately maintained of all physiologic balances is the acid-alkali balance of the blood. So rapidly are excesses of acids or alkalis removed from the blood that it is almost impossible to influence its reaction toward the acid or alkaline direction by natural means. The body is wonderfully equipped to maintain this adjustment even though extraordinary amounts of either acid or alkali should be suddenly introduced. The constant reaction of the blood is slightly alkaline, never acid. In fact, a neutral reaction is all that can be endured with survival and then only for a brief period. Any appreciable change toward neutrality results in coma and death, as seen occasionally in diabetes or advanced kidney disease. The man in the street about his business as usual is decidedly not suffering from acidosis. Acidosis is a relatively rare complication of organic disease and rapidly causes serious symptoms.

Can the acid-alkaline balance be disturbed by acid-ash or alkaline-ash diets? Very slightly and then not beyond the normal limits of fluctuation. Certain investigators a few years ago found that it would require the alkaline ash of 18 pounds of oranges to effect a significant change in the blood in the alkaline direction and 4½ pounds of lean beef to effect a similar change toward the acid side. Such unbalanced diets are seldom encountered. Although varying somewhat in degree, an average dietary contains both acid and alkali producing elements, and the excess of one over the other is never sufficient to be significant.

It is the blood's reaction which is most important, and, as already stated, this is extremely constant. The reaction of urine varies at different periods, depending on whether acids or alkalis must be eliminated to help maintain the blood balance. Usually it is moderately acid. An alkaline urine, the so-called "alkaline tide," occurs at mealtime due to the withdrawal of certain elements from the blood to produce hydrochloric acid in the stomach. This powerful acid is essential to the gastric juice for the digestion of food. The removal of acid elements from the blood leaves an excess of alkali, which is promptly excreted by the kidneys.

The frequently expressed view that for the greatest degree of health the urine should be predominantly alkaline is incorrect. Urinary stones of phosphate content are more apt to form if the urine is rendered constantly alkaline. Moreover, repeated reports in medical literature indicate that kidneys are damaged if alkalis are constantly forced on them. The current craze for alkaline medicines and drinks is not without its dangers of kidney impairment, though probably an excess of alkali derived from food alone is rarely sufficient to cause kidney damage. In this connection, however, it should be noted that in a recent medical report of a study of 10,000 urines there was four times the incidence of pathologic findings in the alkaline and neutral urines as compared to the acid urines. The writer warned against the dangers of prolonged alkalinization of the urine and stated that alkaline self medication should be altogether discouraged. With this, most medical authorities thoroughly agree.

It is time that the public abandoned the excess-of-acid fantasy and adopted some other —more beneficent—health hobby, if health hobbies it must have.

So forget the acids, and let your system dispose of them. It will!

SPEECH TRAINING for the PRESCHOOL CHILD

By **BILLIE WYER**

TRY TO UNDERSTAND WHAT HE SAYS SO THAT HE MAY GET THE FEELING OF SUCCESS WHEN HE TRIES TO TALK TO YOU.

IN REGARD to speech, the main issue before parents is not, as is commonly supposed, "How soon should my baby talk?" or "How many words should there be in the vocabulary of a 2 year old?" but rather "When my baby begins to talk, how can I help him?" "What is my responsibility, and how can I meet it?"

Modern psychologists warn us that many adult failures can be traced to the nursery. Here the whole complex pattern of man's behavior begins to form. And it seems that the more the psychologists discover, the greater is the burden of responsibility on parents. No longer, as of old, can we complain of our children. Theirs is the prerogative of pointing the accusing finger and ours the necessity of hanging our heads in shame.

In the maze of all-importancy the problem of speech has in the past been minimized or dismissed as out of the scope of parental influence or regarded with sanguinity as something the child would "grow into" or "grow out of" all in good time. Yet parents should realize: first, that speech is of the utmost importance to the adult man; second, that a man's failure in expressing himself vocally is more directly traceable to early influence than are his bunions or his irresponsibility, and third, that there are definite and concrete things that parents can do and avoid doing in order to guide the child's first groping attempts at oral expression.

Only in recent years has the importance of speech to man merited any degree of general recognition. Not so long ago young girls of wealthy families were taught polite elocution along with polite piano playing as a drawing room trick. Not long ago speech courses were first introduced into secondary schools, the reason given being that "a man never knows when he may be called to get up on his feet and say a few words." Only five years ago the same courses were dropped from many secondary schools because the depression made it necessary to cut out the "frills and furbelows." And at the present time only the larger and more progressive secondary schools have departments of speech with trained teachers; whereas the elementary schools have none at all.

In the light of this postponement of speech training to late adolescence, when speech habits are likely to be set and to require the most intensive application for retraining, it is interesting to consider the facts about our speech. The figures available show that more than 10 per cent of our entire population has some speech defect; that there are 1,300,000 stutterers; that more than a million school children between the ages of 5 and 18 are defective in speech to the point of requiring remedial training, and that 90 per cent of them are not receiving such training.

For years, penmanship has been taught from beginning school. Yet how many times a day are we called on to exhibit our penmanship, and how often does the impression we make thereby affect us in any vital concern? On the other hand how many times a day do we open our mouths to speak, and *how often does the impression we make thereby determine our success or failure in some goal we are trying to achieve?*

When your child enters school he will for the first time be part of a group which is to be judged impersonally by an adult outsider. This will be for him the beginning of a lifetime of such contacts, a lifetime in which his success or

IF A FOREIGN LANGUAGE IS SPOKEN IN THE HOME, THE CHILD FIRST LEARNS TO SPEAK IN THAT TONGUE; HIS FIRST ENGLISH IS THEN LEARNED AT SCHOOL.

failure will be determined by the impression he makes on others. It is surprising how quickly a group of kindergarteners can be sorted out according to their potentialities for success. Clear, flexible speech is not proof of intelligence, but somehow those whose speech is clear and flexible are already two laps ahead in life's race. That there is some correlation between speaking and learning was first suggested to me by a specialist in speech defects. He told of a boy of 12, once rated as a low grade moron and totally dumb, who made rapid strides in learning and proved to be of normal intelligence after he had learned to talk.

It would be impossible to estimate all the handicaps your child will have to meet if you send him to school with defective speech. Speculation suggests difficulties in associations with fellow students and in making friends, shyness due to growing consciousness of speech defect, difficulties in reciting his studies and trouble with the teachers who may be impatient if they cannot understand him. The important thing to realize is that although mentally he may be bright as a new minted penny, he is beginning school with a handicap that may affect his whole life.

If defective speech is due to physical causes, of course the case should be analyzed by a physician and the defect treated. The number of such cases is surprisingly small. One available figure is 0.3 per cent, based on a study of 2,000 cases of defective speech. In the great majority of cases, defective speech is directly traceable to early influence.

We learn to speak by imitation. But it is not generally realized that speech is muscular, the result of the cooperative effort of some thirty-six pairs of muscles. Sound, produced by the action of the breath on the vocal cords, is the raw material of speech. It is shaped by the mouth and tongue into vowels. Consonants, on the other hand, are not really sounds at all but the restriction or checking of sounds by the action of the tongue, lips and teeth. They can vary only in the degree of vigor exercised in their utterance. Thus one common type of speech defect is known as "lip laziness."

The young child learns to speak by trial and error, the same method by which he learns all his muscular coordinations. At the end of the first year his speech is a jumble of sound, haphazardly reproducing the talk which has gone on around him from early infancy. He babbles, puffs, utters little cries of varying pitch. When by accident his mouth has been shaped in a new way, and he achieves a new sound, he practices it joyously until he can produce it at will. Occasionally he chances to combine sounds correctly into a word. But the words he knows at

this age are the result of chance, and he is not able to transfer at will the sounds he knows in one word to the formation of another. He has however learned a great deal of speech.

When the time comes that he is at last able to direct his efforts to the production of a definite series of sounds he is really beginning to speak. But even now he is not sure what the results will be. He may attempt "cat" but produce "tat." Nevertheless he is learning from every effort. From now on, throughout the preschool age, his efforts to produce certain sounds will be an attempt to imitate the sounds spoken by his parents or those who are in constant attendance on him. If his approximations continue to be defective it may be due to poor hearing. As poor hearing is still the childhood deficiency which most frequently escapes parental notice it is wise for parents to have a child's hearing tested at the first suggestion of inattention or slow response.

HERE, IF HIS TEACHER'S SPEECH IS GOOD, HIS CHANCES OF LEARNING HOW TO SPEAK PURE, CLEAR ENGLISH ARE BETTER THAN IF HE HAD BEEN TAUGHT IT AT HOME.

Thus one may perceive the importance of early influence on a child's speech. It may seem strange that children of uneducated foreign parents frequently acquire a better English diction than children of uneducated American parents. It is not so surprising when one analyzes the situation. If a foreign language is spoken in the home, the child will learn to speak in the foreign language. His first attempts to command the English language are postponed until he is nearly ready to enter school. He will then learn English from his teacher, and if she is a good model his diction has a better chance of being clear and pure than if he had learned corrupt forms to begin with. I have been in the homes of foreigners where the parents' English was broken and blurred. I have heard the children speak to their parents in a rapid fire foreign tongue. Then I have had them turn to me and speak English with a pure enunciation that was far superior to the average American. Early influence counts. The child who early learns a corrupt diction in the home may be exposed to numberless good models in later life without the slightest effect on his speech habits. Speech habits are like all other habits. It is easier to form correct ones than to break poor ones that have already been formed.

Children of foreigners frequently have another advantage in learning a foreign language first. The Italian, French and Slavic races speak with a greater flexibility than we do. Their voices range up and down the scale, and a single word may encompass four or five changes in inflection. Compare this with the dead monotone so frequently heard in small American communities, and you may see why so many speaking contests are won by children with foreign sounding names. Also the German and Slavic races form consonants more vigorously than we do. There is no chance for lip laziness in these tongues. Those who learn English late in life will have trouble in enunciating sounds which do not occur in their own language, but once a member of these races learns English, his diction is as clearcut in that language as in his own. Early influence counts. Muscles that coordinate to produce a sound in one language can coordinate to produce the same sound in another. Muscles that are sluggish and habits that are sloppy *can* be corrected in later life but only with special training and with a great deal of effort from their owners. Thus another responsibility is laid on parents. Fortunately it is not quite so vague as many parental responsibilities, for there are many concrete and definite things which may be said to parents in regard to their children's speech.

Parents should not worry unduly about the age at which their children begin to talk. Physical activity is more important to a young

child than speech. He must develop the large muscles—those used in walking, running, jumping and climbing—and learn to coordinate them, before he can learn to coordinate the finer muscles such as those used in speech. During the early years of life it is important not to inhibit the child's physical activity. Constrictive devices to check thumb sucking and determined attempts to change a child from left to right handedness are both—though for different reasons—frequent causes of defective speech. It is even wise not to try too hard to keep the creeper or new walker from getting ordinary bumps and bruises. Parents who constantly seize their children when they stumble and catch them when they start to fall are developing in the children a reliance on Parent rather than a reliance on their own muscular coordinations. The use of a play pen after a child has learned to walk is poor policy. Even before the child learns to walk he should have several hours each day of unrestricted activity.

For the parents of children who have actually begun to talk I have devised a series of suggestions which seem to me important:

1. Do not correct a child's pronunciation or enunciation. This is based on the sound educational principle that that which is wrong should not be stressed but that which is right should be applauded.

2. *Resist sternly* the temptation to imitate the child's enunciation of words. His early attempts at speech are a matter of trial and error. The result is frequent substitution of consonants—"dravy" for "gravy," "wed" for "red" or "thith" for "this." In a young child these substitutions seem cute and amusing. Parents, deliberately or laughingly or with some idea that the child may have a better comprehension of "baby talk" than of real talk, commit the serious error of picking up the child's distortion of words and thereafter using them in conversation with him. This fault is almost universal; and although it often seems irresistible, it is unfair to the child not to make a determined effort to resist it. When you say "milk," and the baby says "moot," he is really trying to say "milk." It is unnecessary to correct him. For if his hearing is good he will continue trying to approximate with his speech muscles the sound that his ear detects. If on the other hand you switch to "moot" in addressing him, you are deliberately slowing up his learning process.

3. Do not "talk down" to the baby, even in the first months of his life. He will learn to understand "Would you like to go with me?" as quickly as he would "Baby go too?" When he begins to talk he will use simple expressions such as "Baby go," "Baby do," but there is no reason why you should use them. The more speech a child hears, the better are his chances of educating both his understanding and his tongue.

4. Do not nag, coax, repeat or raise your voice in an effort to get a child to talk. Ask him questions casually, and if he does not reply, let it go. Don't make speaking a chore for him by correcting him or trying to teach him to say words; but rather let his speech come of the situation or from a natural desire to express himself.

5. If possible, limit the association of a young child with those who have noticeable speech defects. Stammering, stuttering and lisping have a psychologic reaction on even an adult, producing a strong impulse to imitate. For the young child whose whole behavior is imitative, such an example is dangerous.

6. Try to understand what your child says so that he may get the feeling of success when he is trying to tell you something, but be careful not to let him rely on you as his interpreter. When, for example, he is talking to visitors, let him speak for himself, for the problem is then properly his and not yours.

7. Don't let yourself slip into the habit of ignoring the child, acting as if he were too young to understand spoken words and never engaging him in conversation. Dogs and children alike respond to the artful monologist, the person who knows how to talk to them without requiring much in the way of response. Such monologues broaden a child's understanding and stimulate his desire for self expression.

The foregoing negative precepts are concerned mainly with the child's psychologic reactions to the speech problem. They are important, for fear, shyness, nervousness and self consciousness play a prominent part in causing many speech defects.

But constructively, the most important point that parents must face is that they are the ones the child will imitate in learning to talk. From this point of view, even though parents are not in a position to go through a course of speech training for the benefit of their children, they may ask themselves a few questions and possibly initiate a few reforms of their own volition.

Do you habitually speak in the lower ranges of your voice? In speaking as in singing, you have a vocal range from high to low. Voice placement is a matter of habit. Determination can make a change here in a comparatively short time. Remember *(Continued on page 265)*

HEALTHGRAMS FROM ARTICLES IN THIS ISSUE

¶The far-reaching discoveries of modern medical science has brought on a new era of usefulness for the ancient fountains of health. *See page 207*

¶After any acute episode in heart disease, even when a routine of treatment has been established, rest over a long period of time with careful medical observation is required, and the individual is rehabilitated slowly. *See page 210*

¶If a patient has once had appendicitis, he will always be liable to suffer from another attack if the appendix has not been removed. *See page 200*

¶Teeth are made to do useful work, and the more they are used, the better work they do. *See page 285*

¶What is the road to health for one person may be the road to ruin for another. *See page 219*

¶The condition of true acidosis does not occur under ordinary circumstances and conditions of life. *See page 244*

¶Man has subjugated animals to his use; but he has also subjected himself to many of their diseases. *See page 262*

¶For that end-of-the-day dull throb, which may be caused by a combination of fatigue, hunger and overstress, take a small quantity of light food, loosen your clothing, then lie down in a darkened room for half an hour. *See page 222*

¶Common sense implies intelligence which leads to versatility and adaptability in meeting any situation. *See page 231*

¶While style for the designer of clothes lies in the line of the garment, the secret of style for the wearer lies in the carriage. *See page 212*

¶Mental disease follows on intolerable conditions of living; mental defect is associated to a great extent with impoverishment of stimulation; delinquency comes with neglect and wrong guidance. *See page 238*

MARY: I've just got to tell you about our wonderful find, Jane—it's Post's 40% Bran Flakes, the most delicious cereal you could possibly have for breakfast!

JANE: It sounds simply grand, Mary—and the way you two talk, it must be something extra special!

JIM: You bet it is, Jane! Post's Bran Flakes not only taste great, they have *two extra benefits* that help to keep you feeling fit . . .

FIRST, Post's Bran Flakes provide just enough bran, a *natural* regulator, that helps protect you against sluggishness. People whose systems are irregular, due to lack of bulk in the diet, find Post's Bran Flakes, eaten daily, a wonderful help.

SECOND, Post's Bran Flakes are rich in phosphorus. They are a rich food source of iron, and a good source of vitamin B_1—an essential for maintaining good appetite.

A FEW MONTHS LATER . . .

JANE: I'm so grateful to you for telling me about Post's Bran Flakes . . . they're perfectly delicious, and just what I needed to help keep my system in order!

MARY: Yes, isn't it wonderful, Jane, that eating a grand-tasting cereal every morning can give such wonderful *extra benefits!*

IMPORTANT: Post's Bran Flakes, due to their bulk, are a *regulative* cereal. Constipation due to insufficient bulk in the diet should yield to Post's Bran Flakes, eaten regularly—as a cereal or in muffins. For cases not corrected in this simple manner, a physician should be consulted. Post's Bran Flakes are a Post cereal—made by General Foods.

YOU have been entrusted with a serious responsibility—the care of your baby's health and the guidance of his character-forming habits through infancy and childhood.

And you, a modern mother, are fortunate indeed. You and your baby are living at a time when infant mortality is about 60 per cent less than it was in 1900. The death rate from communicable diseases—measles, scarlet fever, whooping cough, diphtheria—has decreased 90 per cent since 1911. The death rate from tuberculosis among children has dropped 85 per cent in the same period. Childhood diseases are being fought more successfully than ever before in history.

You have the opportunity to minimize guesswork in rearing your child — to escape the necessity of relying on the well-meant but occasionally ill-informed advice of friends and neighbors. Through your doctor and other reliable sources, you have at your command a wealth of information about children's daily health habits and about protecting them from disease. Expert advice is available on feeding, bathing, sleep, exercise, outdoor airing and play—all this, and more, is yours if you seek it and use it.

From leading authorities, the Metropolitan has gathered valuable information on the care and training of children. This is published in three booklets— seventy-one pages of material to help mothers. The booklets discuss—

Prenatal care
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Bathing and dressing
Baby's sicknesses
Immunization and vaccination
Fresh air and sunshine
Play and exercise
Teething, weight and growth
The child's mental and emotional life
Physical habits, concentration, reasoning and memory

The three booklets "The Baby," "Out of Babyhood Into Childhood," and "Good Habits for Children" are yours for the asking, postage free.

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MYSTERIOUS EPIDEMICS in HISTORY

(Continued from page 227)

dicted the death of several who, soon after, contrary to the general opinion, recovered, and on the other hand predicted the recovery of many who were on the point of death."

Then, as now, it was evidently difficult to calculate the chances of the patient's recovery.

The effects of the plague on the minds of the inhabitants of Constantinople were often disastrous:

"All business had ceased; all the craftsmen had deserted their crafts and the work they had in hand. The result was a dreadful famine which raged without limit in a city which was accustomed to all good things in profusion. To have even bread or anything else enough was difficult, and was thought to be a good thing, and so untimely death came upon certain sufferers owing to lack of food."

The account Procopius gives of the effect of the plague on men's morals agrees almost word for word with what Daniel Defoe had to say many hundred years later on this score with regard to the plague of London. As Procopius points out, those who had been given over to profligacy and who delighted in wickedness and unbridled licentiousness began strenuously to practice piety not because they had unlearned wickedness and acquired self control but because they were appalled by the calamities before their eyes.

"As soon as ever they recovered from the sickness and had made up their mind that they were quite out of danger, as though the plague had departed far from them, their disposition fell back again into evil, and becoming much more dissolute than of old, they surpassed themselves in wickedness and debauchery of every kind."

The explanation Procopius gives of this psychic phenomenon is that the evils, which either by nature or long continued habits or tradition have become ingrained in man, cannot easily be altered unless some spirit of holiness has breathed into him. Wonderful philosophy for a man writing several centuries before Christ!

SCHOOL and HEALTH

PREVENTING A MORBID FEAR OF DISEASE

Conducted by **J. MACE ANDRESS, Ph.D.**

IN SPITE of all our successful efforts to make the world a better and happier place in which to live, life has its tragic side. We cannot escape it. Sooner or later we are sick, we grow old, and eventually we must all face death. How to face illness confronts the teacher as she tries to manage her own life; it puzzles and confuses the child as he struggles to adjust himself to a changing world. In some way he needs training to meet illness with courage and finally emerge from such experiences without mental scars and in a healthful state of mind. The importance of this problem entitles it to a first place among the purposes of health education or education in general. What may the school do to promote a wholesome working philosophy concerning illness?

One need in every school is to handle the "touchy" question of disease in such a tactful manner that morbid fear may not arise. In its place should be intelligent caution tempered with reasonableness and hope.

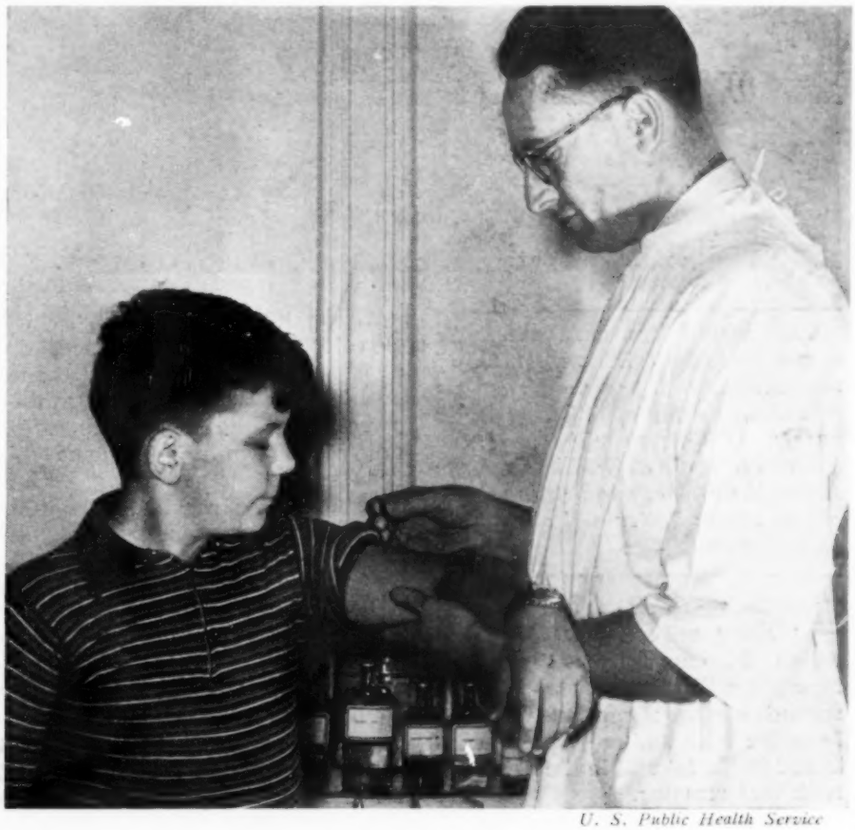
This example will suffice to show what ought not to be done. Sylvia came home from school the other day in tears. The other pupils in her room had been studying about germs. The teacher had told them that germs were everywhere—on their hands, in their mouths and even in the air which they breathed. She had drawn on the blackboard pictures of some of the most malignant germs, such as tuberculosis, typhoid and smallpox. The symptoms of these diseases were described in some detail. The children were warned that if they did not avoid them great misfortune would befall them. Little wonder that Sylvia and some of her classmates cried and could not go to sleep that night. Such extreme teaching makes the study of health distasteful and arouses morbid states of mind that may linger for a long time even into adulthood and seriously interfere with adjustment. It would not be fair to judge from this single case; but it shows how the straws blow in the wind. Teachers should understand how easy it is to arouse morbid fears. Some children influenced by anxious parents already have too much of this fear when they enter school. The problem then is to replace the fear with mild caution and confidence.

Is the study of germs to be ignored then? No, not at all. The discovery that germs are the cause of disease and the refining of methods to prevent their entering the human body and to fight them more effectively after they have entered it is the basis of modern medicine and hygiene. The subject of disease is not to be dodged or avoided. It would be silly to try to read it out of court by saying that it does not exist. We need to come to grips with it, but in such a tactful way that morbid fears may not result, fears that in some cases might be almost as destructive as the disease itself.

One approach is to tell children that most germs do not carry disease. Many of them are harmless, and a large number are friends of mankind. The friendly germs may be played up to advantage. The making of cheese, the tanning of leather and the manufacture of vinegar would be impossible without the help of these friendly germs. They are also the cause of decay, without which the world around us would soon be filled with refuse, and life itself would be all but impossible. Many lessons could be presented to show the many ways in which these friendly germs help mankind. One boy who had had such teaching was heard to remark: "I am no longer afraid of germs. To some of them I feel like taking off my hat in admiration."

In considering the relation of germs to illness, much may be made

THE SCHOOL PHYSICIAN MUST HOLD THE CONFIDENCE OF HIS YOUNG PATIENTS, AS HE IS THERE TO HELP THEM REMAIN HEALTHY.



U. S. Public Health Service

of man's conquest of disease. This opens the way to stories of the wonderful discoveries in medical science. Statistics and graphs will show how typhoid, yellow fever, smallpox and diphtheria are fast disappearing and that it is practically unnecessary to have them. Biographies of the health heroes such as Pasteur, Lister, Jenner, Koch and Banting inspire the conviction that man may be the master of the microbe. Inoculations against diseases such as diphtheria and smallpox tend to relieve the fear of contracting those particular diseases.

In schools where they handle disease tactfully the school doctor and the school nurse work together to show that they are the children's friends. The doctor is cheerful, optimistic and friendly. He visits the school and examines the children, not to tell them that they need an operation or that they are sick but primarily to help them to become and remain healthy. Some of the so-called health habits might get their motivation in part from interests apart from hygiene. It is true that many an illness has been contracted by eating without first washing one's hands, but other reasons for washing the hands may be given. It makes one more acceptable and better liked by other people.

When illness or disability come the teacher can do much to help the child to adjust himself. The cardiac child can be told that he can manage his own life so as to live as long as anybody else and do almost everything that he wants to do if he follows certain rules of hygiene. She may help him in choosing and planning his activities. For such a child this guidance is likely to be much more important than any kind of book knowledge.

Probably the greatest single influence in the prevention of the morbid fear of disease is the attitude of the teacher. She should not be overanxious about disease. It will communicate itself unconsciously to her pupils. If she thinks health rather than disease she will disseminate among her pupils the spirit of faith, good cheer and happiness. Such a spirit is contagious.

Food Experiments for the Classroom: VII

By ETHEL AUSTIN MARTIN

THE MOST IMPORTANT PRODUCTS OF THE DAIRY ARE MILK, CREAM, BUTTER, ICE CREAM AND THE CHEESES.

This month Mrs. Martin, who is director of the Nutrition Service of the National Dairy Council, suggests a second way of "taking milk apart." Children will enjoy the activities, such as making cottage cheese themselves and visiting dairy plants where butter and cheese are being made.

LAST month I showed one way of "taking milk apart," by separating the curds from the whey. Now we will take milk apart by a second method: separate the fat from the milk and see what is contained in the fat and in the skimmed milk that remains.

All whole milk contains fat which we call "cream." But commercially it is known as butterfat. Cream or butterfat is lighter than milk—a fact that is utilized in separating cream from milk. At home this occurs when cream "rises" and is skimmed off. In milk distributing plants a special machine called a "separator" is used.

The commercial importance of dairy products may be realized from the fact that about 48 billion quarts of milk are produced in our country every year. Of this amount about one-fourth is kept on the farms, where it is used as milk and cream for making farm butter and for feeding to farm animals. The remainder is sold for use in the many forms in which we use milk. For example, about 20 billion quarts are consumed as milk and cream. The residue is used to make more than 2 billion pounds of butter, more than 500 million pounds of cheese and nearly 250 million gallons of manufactured ice cream.

The ramifications of the dairy industry may be further gaged by the fact that 30 million bottles of milk are delivered daily on American doorsteps. Approximately 350 million new milk bottles are purchased annually. The average quart-sized milk bottle makes nineteen trips and a pint bottle, eight trips. It is estimated, moreover, that

250,000 workers are employed in processing and delivering dairy products.

The accompanying photograph shows a grouping of various dairy products. All of them contain more or less butterfat. Of this group, butter and whole milk cheeses have been discussed in previous articles of this series. Ice cream, however, should be cited here as one of the most important products of milk containing significant amounts of butterfat.

Plain ice cream is usually made from cream, milk solids, sugar, egg yolk and flavoring. These ingredients are combined in proportions to yield a mix with approximately the following composition: fat, 12 per cent; serum solids of milk (protein, milk sugar, ash), 10 per cent; sugar, 15 per cent; gelatin, less than half of 1 per cent. A one-sixth quart serving of ice cream made from such a mix yields about 200 calories and is a significant source of the proteins, minerals and vitamins found in milk. Modern manufactured ice cream has changed from what was once an overly rich, sweet dessert to the present wholesome, nutritious product.

Skimmed Milk Products

When the butterfat is removed from milk the residue is known as "skimmed milk." This is an important dairy product, for it contains many of the solids present in whole milk. Skimmed milk is used in large quantities, not only as such, but also as "made" buttermilk. Cottage cheese is one well known product of skimmed milk. Cottage cheese is made at home by allowing the milk to sour (acid develops naturally) and then heating it gently to develop the curd more fully. When the white curd forms, there remains a clear, greenish liquid known as whey. By draining off the whey, then drying and seasoning the curd, we have cottage cheese.

In milk plants, cottage cheese is made on a large scale. Sweet skimmed milk is usually used. An acid "starter" is added to sour the milk. Often rennet is also added to complete the curdling process. The whey is drained off just as at home, and to the curd is added seasoning and cream. The product thus becomes "cream cottage cheese."

Application to the Classroom

Students will enjoy taking milk apart by a second method which starts by removing the butterfat. In preparation for this lesson it is suggested that they observe such processes as a milk separator in operation on a farm or in a milk plant, butter being made in a creamery and cottage cheese being made in a milk plant.

Experiment with Milk (Butterfat)

Problem

To take the fat out of milk.

Materials

Bottle of milk in which cream layer is well marked
Lactic acid
Cream dipper
Small glass jar
Dropper
Funnel
Cheese cloth
Bottle

Twelfth Experiment

Dip the cream off the bottle of milk carefully with the dipper. Put about ¼ cupful of the cream in a glass jar. Add about 10 drops of lactic acid to the cream, and cover jar tightly. Shake the cream in the jar until fat particles appear in the cream. Then strain through a cheesecloth placed over a funnel. The fat that remains on the cheesecloth is butter. The liquid which is drained off is buttermilk.

Results

Fat is removed from milk, first by skimming the cream, then more completely by shaking the cream after "souring" it with lactic acid.

Conclusions

Whole milk contains butterfat or cream. It can be removed in the classroom by following the directions previously listed. It is removed commercially in making butter by putting milk through a machine called a "separator," then agitating it in a large churn until the butter particles cling together and separate from the buttermilk.

Application to Lower Grades

The lower grades have perhaps made butter as suggested in an earlier article. They may now make cottage cheese if facilities of the school permit. It will add to the interest of either occasion if the class is permitted to share its product with other children.

Application to Upper Grades

An interesting supplement to the twelfth experiment is to repeat the tenth and eleventh experiments described in last month's article, except substituting for whole milk the skimmed milk left when the fat was removed in the twelfth experiment. This will show that different methods are used to separate curds from whey in making different types of cheese but that it can be done equally well whether the milk is whole or skimmed. Thus in making hard cheeses, some is made with whole milk and some with milk partially or wholly skimmed. Students will enjoy making cottage cheese by the acid and by the acid-rennet method and comparing their results.

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Teen-Age Anemias

By MARIE A. HINRICHS

Anemia is common among college students. What is anemia? How serious is it? How may it be prevented and cured? These are some of the questions suggested and answered by Marie A. Hinrichs, M.D., Ph.D., head of the student health service, Southern Illinois Normal University, Carbondale, Ill.

WHEN our teen-age boys and girls come to school pale and listless and gradually lose interest in keeping up with the activity of the young people of their set and care less and less for outdoor sports and dancing and more and more for staying indoors, what can be wrong? Are they truly ill? Is their school work too heavy, and do they not feel equal to the simple tasks set for them about the home? The family physician will tell you that there is not much wrong but that Joan and John "need building up. They're anemic."

What does this mean, and what can we do about it? It means that for some reason or other these young people have in their blood

stream less of the iron-retaining substance, hemoglobin, than they need. There are many kinds of anemia, but the kind which young people of teen age most frequently have is not a serious kind in most instances. Usually, under the care of a skilled physician and a firm parent to carry out his directions, Joan and John will soon become the alert, active people we want them to be.

At the Southern Illinois Normal University a recent study was made of many such young students. Approximately 400 students in attendance during the spring of 1937, or between one fourth to one third of the whole student body, showed some degree of anemia at the time of their complete physical examination.

Isn't this an alarmingly high proportion? Not if we consider all the factors which influence the lives of a group of this kind. In trying to understand the causes behind this condition, we must study the living habits of these students and their physical heritage as well. Let us begin by examining the home background. Most of our students come from what we are wont to call middle-class small town communities, some from more modest homes and others from an underprivileged group. With many of these young people, obtaining adequate nutrition was a serious problem during their formative years. It has been aptly said that we are now getting the backwash of the depression in our teen-age group. Among the number studied, about 25 per cent showed varying degrees of malnutrition.

Family history, while not being a very potent factor in directly modifying the general health, needs to be thought of as a contributing factor in the production of a good health background and good family health habits. Witness the fact that about one quarter of this group of students gave histories of heritable tendencies, including cancer, tuberculosis, paralysis and epilepsy.

In the personal health history of these students the early childhood diseases seem to have taken their usual toll with no untoward aftermath in most cases. However, when we look over the subsequent health histories of some of these students we find, for example, that 97 per cent of them gave a history of measles and that this was followed in 76 per cent of the same group by chickenpox, mumps or whooping cough and later in 14 per cent of the same group by pneumonia or bronchitis. Some of the more serious childhood diseases, including scarlet fever, appeared in 19 per cent of the group and were followed in some instances by such conditions as heart disease or middle ear trouble. Diphtheria, chorea and rheumatic fever in a few instances were also followed by heart trouble. This group of diseases left a much more serious imprint on the future health of these young students.

We no longer believe that children must have the so-called childhood diseases. Now that immunity to some of these conditions can be obtained by the simple expedient of inoculation or vaccination, there seems to be little excuse for carelessly subjecting children to health hazards which may leave their permanent imprint during this period of growth, which even under normal conditions of health make exorbitant demands on these young bodies. What has all this to do with teen-age anemias? A great deal. Especially when the nutrition problem is also superimposed on these conditions.

Another important factor is found in the health habits which our Joans and Johns have acquired, either at home or since they came to school. Here intelligent parents or teachers can mold behavior patterns so that they will carry over into the lives of students "on their own," students who for the first time must plan and in some cases prepare their own meals. This becomes especially important when funds are low and when cheap food must become good food chosen to supply adequately the needs of an active and rapidly growing body.

We cannot stress too greatly the need for building good "food habits," or minimize the need for establishing regular habits of elimination, of sleep and rest and of paying serious attention to the correction of minor remediable defects which may become the source of a long continued low-grade infection.

Our records show that slightly more than half of the students in this group had poor habits of elimination and about the same percentage had poor posture habits, while about 30 per cent showed evidence of easy fatiguability. The presence of low-grade infections, such as involvement of tonsils and teeth, was noted in about 30 per cent of our students in this group. A small minority also presented a malarial history, with recurring attacks in some cases, a condition which thoroughly depletes the hemoglobin.

Among the observations in the study the following reasons were noted for the appearance of teen-age anemias: family background, poor health record, poor health habits and failure to correct minor physical defects which continue to deplete the necessary hemoglobin in the blood.

We have of necessity to accept the first two conditions; but we can do something about the other two. In many instances a rapidly appreciable increase in hemoglobin runs parallel with a steady gain in weight, vitality and general physical fitness. Many of these cases were controlled by simple dietary regulations, including food with increased iron content. By faithful cooperation on the student's part, we have in several instances been able to produce a rise in hemoglobin content of from 10 to 15 per cent in a period of a few months.

Teaching Nutrition in the Primary Grades

By EDITH F. MILLER

This story of how an ingenious teacher made the practical study of nutrition popular in the second and third grades should be suggestive to all primary teachers.

THE pupils in our school eat their lunches in the school lunchroom as they live too far away to go home at noon. Last year I noticed that both the lunches they brought from home and the lunches they bought at school were only partially eaten each day. The fact that many of the children ate parts of their lunches before school made me suspect that their breakfasts were also inadequate and that I must try to interest the class in eating better meals.

Accordingly at the first morning discussion that was not taken up

Cy La Tour

IN ALL OUR PREPARATION OF FOOD WE WERE CAREFUL TO HAVE OUR HANDS CLEAN

with other topics I led the conversation to a discussion of the breakfasts the children had eaten that morning. Some reported that they had eaten splendid breakfasts, while others had eaten little or no food. When I compared their bodies to engines needing fuel in the form of food, to make them run, all were eager to help plan a breakfast that would make them ready for a morning of work and play. After much discussion we agreed that an ideal breakfast should consist of: fruit, raw, cooked or juice; milk, as a drink or on cereal; something hot, cereal, beverage, eggs or muffins; something requiring chewing, fruit, bacon or toast, and some whole grain, cereal or bread.

During the day the children made individual posters to show what their own ideal breakfast would be.

The next day the boys and girls came to school eager to tell about their breakfasts. After a discussion I showed a series of charts I had prepared entitled "Sunday's Breakfast," "Monday's Breakfast" and so on for the entire week. For several days the children cut brightly colored pictures of breakfast foods from magazines, and we planned the week's breakfasts, having no two breakfasts alike, yet all consisting of the five essentials we had listed. Placed around the room, the finished posters were the center of interest and inspired one child to suggest that we plan some good lunches too.

Enthusiastically we began to do this. The things we considered necessary to a good luncheon were: milk, in soup, as a beverage, in creamed dishes or in desserts; something requiring chewing, as celery, raw carrot, nuts, cookies and apples; bread; two vegetables, in soup, salad, cooked or raw, and fruit, in salad, cooked, raw in dessert form or juice.

We read over the daily menus served at school and found that almost all of them met our requirements. The children enjoyed showing how they could combine two essentials, such as milk and vegetables, into one dish.

As the class worked on the colorful posters we had many valuable discussions about food for we talked about the kinds of foods pictured, where they came from and how they were prepared.

Our spring vacation was drawing near, so I suggested that instead of having an Easter party we might cook a complete luncheon. The children were delighted. After many ideas had been suggested we decided to serve

Baked Beans
Lettuce and Tomato Salad
Whole Wheat Rolls and Butter
Gelatin with Whipped Cream
Cookies
Milk

If time had permitted, the whole class would have gone marketing for the groceries; but since this was impossible, each child brought some food or money for the luncheon.

The children wanted to invite our school nurse for she had been so helpful in our planning. They also invited the principal and two others.

We wanted to make things as pleasant as possible for our guests, and so for many days before the Easter luncheon the children took turns being guests and hosts at our daily lunches. This made our lunch periods more interesting and lessened the desire to rush out leaving half-eaten lunches. Children who proved to be the most polite in our play at entertaining guests were chosen to escort the guests to their places on the day of the luncheon.

Our luncheon was scheduled for Thursday, so on Tuesday we sorted the beans and soaked them. Many of the children had never seen beans prepared for baking. On that day we also made favors and place cards.

On Wednesday we boiled the beans. We placed the saucepan over an electric plate in our classroom. When the beans were cooked we used the electric plate to heat the water for the gelatin. We made the batter for the cookies in our classroom and asked the woman who cooks the school lunches to bake them for us.

In all our preparation of food we were careful to have our hands clean and to keep the food covered as much as possible.

On Thursday morning we added the molasses and other ingredients to the boiled beans, and they were sent down stairs to be baked. What a busy happy morning we had! Some children arranged the tables, others whipped the cream, made the salad or buttered the rolls. No one lacked an appetite that day, and when the children and their guests finally arose from the table not a scrap of food remained.

While primarily a health study, the unit had also been valuable in other subjects. In English the children had written invitations and enjoyed the dramatic play in which they planned what to say to their guests. Reading had been necessary to read the answers to our invitations and to be able to follow the recipes. In arithmetic it was a profitable experience to measure the ingredients needed in our recipes, to set the oven gage and to time the baking of our beans and cookies.

A School That Serves Its Community

By BERTHA STREETER

The interests of a school and a community are mutual. Here is a gratifying story of a community that wholeheartedly supports its school, which in turn reciprocates by helping the community.

WHEN the principal said over the telephone that they had no gymnasium in their school, "Oh! oh!" said I to myself. "No health program then—and over 1,800 students!"

"But we have two people who follow up those medical examination blanks," he continued, "and if parents can't afford a doctor's fee for that purpose, they find some way to get it done. It's simply wonderful how all the doctors in our neighborhood will do anything for us!"

It isn't surprising that the twenty to thirty physicians in the community are so willing to help, for the principal and his two health directors, a man for the boys and a woman for the girls, have thrown themselves wholeheartedly into an effort to promote the health and welfare of every member of the community of which the school is the center. And most doctors like that sort of spirit and stand by, eager to help all they can.

"At first, it seemed as if having no gymnasium would hinder in working out the health program we had in mind," said one of the health directors. "And it would have, if our idea was merely to go through physical exercises every day. We can use the gymnasium of the school at the end of the block when we want it, and we do when a student needs corrective exercise that their equipment will help. But not having gymnasium classes to look out for gives us health directors all the more time to devote to our health program, which seems to be different from that of other schools."

Each student on entering the school is supposed to have a physical examination by his family physician. If within a reasonable length of time he does not return the form given him through the school medical service of the department of health, he is queried by the health director as to the reason. If he says that his people cannot afford the fee, the director talks the matter over with the parents. If it is found that they really cannot pay anything toward the fee, the matter is taken care of through the main clinic of the school, or the probate court. If, however, they can pay even a little toward the modest fee, they are referred to any physician in the neighborhood who arranges the fee according to the family's ability to pay.

In bringing this about, the health director often reminds parents that sometimes a doctor may be needed in an emergency. "In the night, perhaps, when the household is so excited that they cannot decide quickly whom to call, the patient may needlessly suffer. But if you arrange with a physician to be your family doctor, and his telephone number is kept in a prominent place where any member of the family can get it, he will be sent for almost automatically, and he will hurry to you, day or night. Perhaps this arrangement may even save a life."

Often, too, the health director must point out to parents the physical ills to which dental neglect may lead before they are convinced of the wisdom of selecting a dentist to whom all the family may go at terms to suit the household budget.

Through these and other means, 96 per cent of the graduates last year left this school with all their "x defects" corrected, and many had the additional advantage in that they knew to whom to turn for medical and dental help when they were no longer under the direct supervision of the school. Moreover, in going to a home to talk over a student's problems with his parents, the health director notes the physical condition of all members of the household and tactfully helps them, as well as the student, to get any assistance they need. The same thing holds true when any boy or girl in school needs glasses or dental work, or wants part time employment.

Last fall, in cooperation with the local paper and a committee of business men, the students gathered $600 besides supplies to make 450 Thanksgiving baskets. An ad in the paper stated that baskets were available to any family in the community, and the school would be glad to hear from any in need of one. Over 500 letters came in reply. A card was mailed to each writer, telling him to present it at the lobby of a local theater the afternoon before Thanksgiving. The contents of the baskets were supplemented and rearranged to make the required number, and all were carried away within the hour by grateful and happy people.

Each year, this school also stages a show, drawing crowds that jam the auditorium to capacity. Their last show netted $1,700 for sending 200 underprivileged boys and girls to a camp, where during the summer vacation they are built up physically. That would have been impossible had not this opportunity been planned for them.

Every year, through the school doctor and cooperation of the physicians and dentists of the community, each boy and girl in this school gets a thorough physical and dental examination. Every second year the test for the presence of tuberculosis is applied to all students whose parents give their consent. In this way, from one to three positive cases are discovered. Immediate steps are taken to put the student in the way of recovery and also to see whether any other members of his household are similarly afflicted or are likely to be.

A school service club sees that letters and books are sent to each patient and that he is visited at least once a month by some friend from the school. When there is a death in the immediate family of any student, the principal and one of the health directors together visit the home to offer what comfort they can and see if in any way the school may be of assistance.

To Contributors:—*The editor of the School and Health Department will be pleased to receive articles dealing with the actual solution of concrete and practical health education problems in the school. Contributions on general theory are not solicited. Articles must not exceed 1,000 words in length. Stamps should accompany manuscripts to insure their return if rejected. All articles accepted will be paid for at regular rates. Address Editor of School and Health Department of* HYGEIA, *67 Clyde Street, Newtonville, Mass.*

Accidents Need Not Happen!

By ETHEL MEALEY

This was the conclusion of a sixth grade after it had made a careful study of the traffic problems of its community. Teachers of the intermediate and upper grades will find some excellent suggestions here for carrying on a similar project. Miss Mealey is director of health education, Division of Maternal and Child Health, Oregon State Board of Health.

BECAUSE of an enormous number of motor car accidents in one of the villages in Westchester County, New York, the superintendent of schools was convinced that "safety" should be one of the major educational projects for all the schools. Thereupon, the elementary school supervisor, the principals of the elementary schools and the consultant in health education of the Westchester Tuberculosis and Public Health Association worked out plans by which the pupils in the elementary schools might participate in improving their "safety" behavior and in making Peekskill a safe place in which to live. The skeleton outline was the same for all schools, but each school developed it in its own way. The following is a description of the way in which it was developed in one school.

Traffic safety was the first "safety" problem which was studied because of two serious automobile accidents within a week, one of which caused the death of a school child. Our first problem was, "Is traffic safety a problem in Peekskill?" The sixth grade pupils in an English class wrote letters to the chief of police, to the local health officer and to the county health department asking for certain definite data. In the meantime, the instructor notified these officials that it was a serious study that these pupils were undertaking and asked for their cooperation.

The health officer and the county health department sent valuable data concerning not only traffic accidents but also accidents occurring in the home, on the street and in industry. The chief of police made an appointment to meet with a committee from the school in his office to study the police records for several years. All grades submitted standards to be used as a basis for selecting the committee to represent the school and also sent many questions for the committee to ask the chief of police. These questions were organized by the sixth grade, and the committee was instructed to find out the number of accidents, location, causes, fatalities, nature of injuries, age of driver and, if possible, final results or disposal of cases, such as length of hospitalization, treatments necessary and penalties. It was decided to assemble data for the past three years in order to find out whether there was an increase or a decrease in number of accidents.

A large map of Peekskill, mounted on bristol board, was placed in the main hall at a height convenient for all children. All traffic accidents were located on the map by means of pins, using a different color for each of the three years. The map revealed two facts: (a) Accidents were on the increase because there were "lots more green pins," and (b) accidents cluster around certain areas or "are in bunches." The causes of the accidents were tabulated and placed on the bulletin board in the main hall. However, the "causes" did not show why several areas were more hazardous than others. So, logically the pupils asked, "Why do more accidents occur at certain points?" This called for committee investigation. Another committee, accompanied by the consultant in health education, went to find out the "why." Snapshots of the most dangerous places were taken from four directions. These pictures, together with the committee's notes, were most carefully analyzed by the sixth grade, and recommendations for improvements were prepared and sent to the superintendent. At one intersection the center-hanging traffic light was completely hidden in all directions by masses of overlapping branches of large trees. A tall hedge shut off the view of a street with a steep grade. A long enclosed stairway on a hill opened abruptly onto the street.

A study of the data revealed that pedestrians were involved in a large percentage of the accidents. Again the question was, "Why?" "How do people behave when crossing streets?" From pupils' knowledge of the way people should cross streets, a check list was prepared by the fourth, fifth and sixth grades. Another committee stationed themselves for one hour at one of the "busy corners" in the business district. The behavior with reference to traffic was tabulated.

Before sharing the results of their investigation the committee for two days checked pupil behavior with reference to traffic within the school block. Then they had another story. "I guess we're not so hot. Something has to be done. We are just as dumb, careless or thoughtless as those folks." Arithmetic revealed that they were really more careless than the adults. According to their tabulations, it was found that among the adults at the business intersection 72.2 per cent "started safe"; 11.1 per cent "started unsafe"; 16.7 per cent "did not look." Among school pupils within the school block 25.9 per cent ran into the street after dismissal; 15.5 per cent were "reckless," and 58.6 per cent were careful. The fact that the two situations were different did not occur to them, and it seemed wise to have them work out their solutions without calling attention to it. The sixth grade prepared notices for the bulletin board; gave talks to all the other pupils and had two assembly programs in which the chief of police was an honored guest. Then the entire school prepared a code of traffic behavior and, since it was their code, they enforced it. Woe unto any one who violated this code of theirs!

Through this project the pupils learned much about traffic safety in their own community. They found out that (1) lack of caution or alertness, unsafe speed and alcohol were the causes of most of the accidents; (2) accidents occur at every hour of the day, but most of them occur between 4 and 9 p. m.; (3) the most common type of accident is that of private car colliding with pedestrian, with fixed object and with moving vehicle; (4) "pedestrians are worse than drivers"; (5) "accidents don't need to happen"; (6) "accidents cost a lot of money", and (7) "accidents cause much suffering."

Little Journeys Among High Schools: VII

By JEAN V. LATIMER

One of the most persistent of the problems that directly concern adolescent boys and girls is tuberculosis. Miss Latimer, who is coordinator of health education for the Massachusetts Department of Public Health, reports that real progress is being made in our schools.

TUBERCULOSIS ranks as the leading cause of death in the adolescent age group. Much emphasis has been placed on the control of this disease at this age and the nationwide program of tuberculin testing as a means of early detection. Yet until a few years ago it would have been considered gruesome to teach about such a disease as tuberculosis to high school pupils. Not so today, for there is a growing consciousness that any intelligent public health program for the control of tuberculosis at this age level must first of all secure the wholehearted cooperation of youth itself. Definite teaching plans are now being formulated.

A few years ago a group in Massachusetts became concerned because the tuberculin testing program conducted in the high schools by the state department of public health reached only a limited number of pupils (since only about 40 per cent to 50 per cent of the pupils' parents gave their consent for this examination).

A unit of teaching, termed "A Suggested Teaching Unit for the Secondary Schools on Tuberculosis and Its Prevention," which my associates and I prepared, was experimentally tried out in a group of selected high schools. Later this plan was revised, enlarged and published by the National Tuberculosis Association under the title of "Preventing Tuberculosis—A Teaching Unit for Junior and Senior High Schools."

It is gratifying to find that there is now a statewide movement to have an organized teaching plan an integral part of the tuberculin testing program.

In one high school I found considerable attention given to a classroom discussion of such a problem as "What does the class already know regarding tuberculosis?" It is evident that many pupils still believe that tuberculosis is inherited. One girl said, "I have a friend who now has tuberculosis, and her mother died with it." Under the leadership of the teacher an intelligent discussion was then held in relation to the germ cause of tuberculosis and thus the inherent danger of being in too close contact with the disease.

In one county the student health councils in several high schools in cooperation with the local tuberculosis association made a visit to the county sanatorium in order to see what an attractive place it was and to notice the good care given to the patients. During this visit one boy remarked, "Gee, I wouldn't mind coming to this swell place if I were sick!"

That closed windows, or the lack of fresh air, cause tuberculosis, is another superstition regarding the disease which is being rapidly lessened as a result of scientific teaching.

In another school I heard a lively classroom discussion on the relation of the common cold as a factor in breaking down resistance. One girl had been given the assignment of investigating the relation of the common cold as a contributing factor rather than as a primary cause of tuberculosis. I heard her report, which was brief and accurate and was received with enthusiasm by the entire class—all of which demonstrated that such facts, which are so vital to youth, may be made interesting and worthwhile.

That teachers themselves do not altogether know the facts regarding tuberculosis was demonstrated in a well known city school system by the giving of a true and false test on tuberculosis which had been primarily prepared for ninth and tenth grade children on tuberculosis. The amazing results showed that over half the teachers missed more than five of the eleven questions.

The teaching of a unit on tuberculosis provided first-hand opportunities for reading well prepared pamphlet materials on the topic now available from the national and state tuberculosis organizations. In one city of 75,000 population, 14,750 pieces of literature were distributed in this way.

Several times during the past year in my visits to high schools I have come across groups of pupils intent on seeing such motion pictures as "Behind the Shadows" and "Tuberculosis and How It May be Avoided."

In one city, accompanying these pictures the local health officer gave a short talk regarding the tuberculin test and actually demonstrated the test either on a popular teacher or on a popular student.

One high school group was deeply engrossed in the study of a pictorial chart on "Landmarks of Progress and the Control of Tuberculosis." I heard several interesting English compositions read on the subject of "What I Consider the Six Most Important Landmarks on the Control of the Disease." Some of the scientific people claimed that the development of science was paramount in the control of the disease, while those more socially minded held that the social agencies who had interpreted these scientific observations and had made possible the popular practice and acceptance of them by the general public were equally as important.

The cooperation of a teacher of mathematics in one high school was secured for the developing of bar graphs for every ten years since 1900 to show the remarkable decline of the disease. The same class graphed the deaths of tuberculosis according to five year age intervals, and these showed unmistakably that the present peak of the disease was in their own age group.

The social mindedness of the high school group was also stimulated by the studying of the lives of such health heroes as Robert Koch, Louis Pasteur, Edward Trudeau and others.

A study of their own local social agencies working in the community for the prevention of tuberculosis also demonstrated to the high school group how they might participate in such organizations and thus make their own contribution to the cause.

More and more, not only public health officials but all educators are coming to agree with Dr. Thomas Parran, surgeon general of the United States Public Health Service,

who states emphatically that it is not only wise but particularly imperative to interest youth in the control of diseases which especially concern them. Needless to say, tuberculosis is first on such a list.

Whereas many incidental references and related knowledge may be found in other health units in the curriculum, the fact that tuberculosis is a leading cause of death in the high school age group makes it necessary that an organized plan of "core learnings" on the topic be taught at both the junior and senior high school age levels. In no other way will the intelligent cooperation of youth itself be obtained for a public health program of tuberculin testing in the high schools.

In schools where the unit teaching on tuberculin testing was carried on we are already noticing results: The percentage of pupils taking the tuberculin test has in various instances been raised. The health officer of one of the cities in our state has reported that the number of pupils taking the test increased from 55 to 85 per cent, which he attributes in no small measure to the teaching program done in connection with the testing.

Combating Syphilis Among University Students

By BILL PITCHFORD

This is the story of what one university is doing to get facts about syphilis through Wassermann tests. It should be suggestive to other higher institutions of learning.

IN AN effort to prevent the spread of syphilis on the campus of the University of Oklahoma, the student health service, under the direction of Dr. W. A. Fowler, has given Wassermann tests to all students who are in any way connected with the handling of food and to all who wish to use the university swimming pools.

The tests are given free of charge to these and any other students who wish to take them. They are given as a part of the regular physical examination, no special campaign being conducted among the students to take them.

Tests have been given to more than 2,500 men and women, and of this number the average positive result has been only 1 or 2 per thousand.

These few are required to put themselves under treatment until pronounced cured. They are asked for names of those who might have infected them, and they have been highly cooperative in this respect. Those named are also given the Wassermann test; all of these results have been negative.

The student health service does not take any disciplinary action in its findings. All tests remain strictly confidential.

The remarkable thing about these tests has been the complete absence of student opposition. Not only the student newspaper but newspapers all over the state have published editorials in its favor.

The only opposition received has been from two parents of students. One, an irregular practitioner, stated that the student health service was merely using the students as guinea pigs. Another, a physician, said that such tests should be given only by the family doctor, otherwise it was an infringement of the students' personal freedom.

If anything at all is proved by this, it is that a lower percentage of syphilis is found among university students than in any other group.

School "Health Station"

A "health station" has recently been completed in Thornburn Junior High School, Urbana, Ill.; from one school room has been made two rest rooms for girls, a dental clinic and large reception room. Each of the rest rooms is equipped with a cot and the dental clinic with all necessary materials. The project was made possible by contributions from the Champaign-Urbana public health district and the Urbana board of education. The school board financed the plumbing.

Ferdinand the Bull was the subject of one of the murals contributed by eighth grade art pupils. They added a slight touch of originality to the story as depicted, however, by showing Ferdinand returning from the health station with the bee sting protected by adequate bandage.

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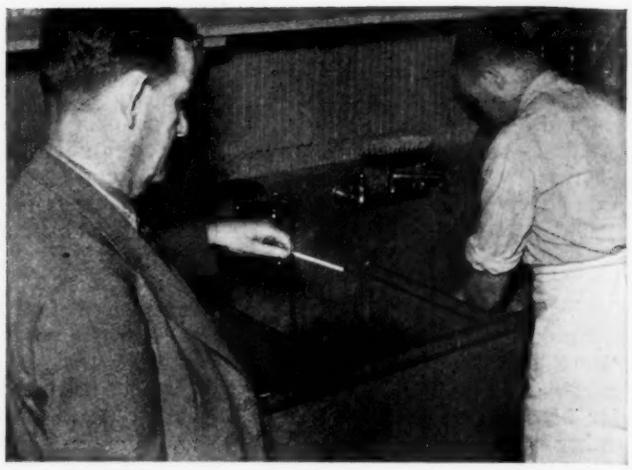
INSPECTION OF MEAT STORAGE IS CARRIED OUT IN RESTAURANTS.



IS THE WATER HOT ENOUGH TO STERILIZE THE DISHES?

TO AMERICA'S SCHOOLS

Your Health!

COMMUNITY HEALTH

SO FAR in the series "Your Health" we have been dealing with health of the individual. Now we consider the health of the community, or at least community measures having to do with health.

There will be four programs in this series, as follows:

March 8—Water, Waste and Sanitation
March 15—Guarding Fresh Foods
March 22—Auditing the Health Record
March 29—Animal Diseases Transmitted to Man

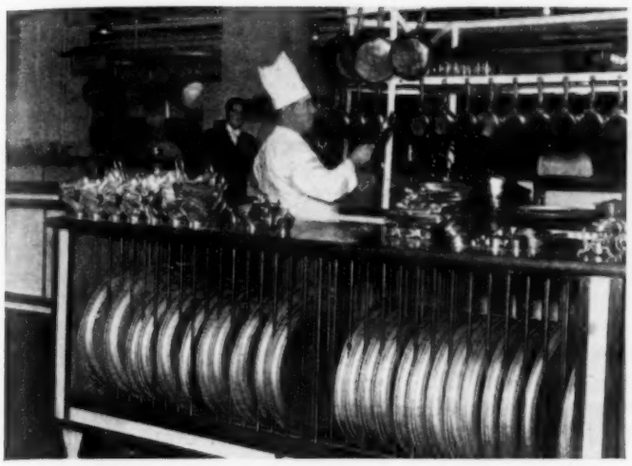
March 8: The more civilized a community is, the more water it uses. Water is used not only for drinking purposes, but for bathing, washing, manufacturing, for cooling processes and for power. Only a small part of the water is used for drinking purposes, and yet it is necessary that the entire water supply shall be pure and clean enough so that no matter where or when a drink is desired it can safely be taken. Purification of water is an expensive process, and efforts have been made to reduce the cost by furnishing a double water supply: that is, one which is fit to drink and one which is fit for other purposes but not for drinking. This does not work, because no one can be sure that the unfit water will never be used for drinking. Also, it was found more expensive to provide and maintain two supplies than it was to purify the entire supply.

City water supplies may come from wells, springs, streams or lakes. In sparsely settled areas, wells and springs may furnish pure water which can be used without treatment, and even the water in remote lakes and streams may be safe to drink. But in or near civilized communities all natural water supplies must be considered polluted. Purification of water is brought about by chemical disinfection, filtering, exposure to air and by sedimentation, or settling. How these processes are accomplished will be shown in the broadcast.

The dumping of unpurified sewage into public water supplies complicates the problem of getting pure water to drink. For that reason it is necessary that communities take steps to purify sewage before dumping it into streams or lakes.

March 15: The fresh foods which come into the community must be guarded against improper handling and contamination in incoming and outgoing transit and while being marketed. The community must be sure that the foodstuffs which are perishable are delivered to the consumer in a wholesome state for his consumption.

Among the principal perishable products is fresh meat. This must be supervised from the first arrival of animals at the stockyards to the final delivery of steaks, chops, sausages or hamburger to the shopping



THIS KITCHEN HAS CLEAN AND ORDERLY STORED EQUIPMENT.

Photos, courtesy U. S. Public Health Service

A FOOD INSPECTOR COLLECTS SPECIMENS FOR TESTING.

housewife. This is accomplished by a combination of federal and municipal supervision, which includes inspection of animals before slaughter, of the carcasses of freshly slaughtered animals and of the meat cuts and manufactured products in storage.

Fresh fruits are subject not only to spoilage, but they may contain dangerous amounts of insect sprays unless properly washed. The U. S. Department of Agriculture requires such washing, but it is frequently necessary for local inspectors to check up to see that the regulations have been complied with.

Among other fresh foods which sometimes give rise to disease are bakery goods, especially cream filled preparations such as torts, cream puffs, eclairs and cream filled cakes. These are especially liable to contamination in hot weather. Careful sanitation in the bakery is a safeguard against these dangers and is not difficult to achieve.

Fish and seafoods are highly perishable, but under modern conditions of rapid transportation and effective refrigeration they can be transmitted safely to distant inland points. This, too, is accomplished under supervision by federal and municipal inspectors.

March 22: The U. S. Public Health Service has a slogan which says in effect that the control of contagious diseases depends on the knowledge of when, where and under what circumstances cases are occurring. This applies not only to contagious disease, but also to all the facts which help the health officer in guiding his program.

Among the principal facts the health officer wants to know are: the population of his community; the number of deaths, births and dead or stillbirths annually; the number of marriages and divorces; the number of contagious diseases and where they are found, and, most important, the causes of illness and death in his community.

It would obviously be silly to spend large sums of money to control malaria where there is no malaria and equally foolish to fight hookworm where the hookworm does not exist. On the other hand, the best time to fight certain epidemics, notably smallpox and diphtheria, is when there are no cases of the disease in the community. By a careful study of the situation the health officer knows what must be done and also when is the best time to do it. If records have been kept accurately in his community over a number of years, he not only has past experience to guide him, but on the basis of that experience he can predict with fair accuracy the expected outbreaks of certain diseases, especially measles and whooping cough, which recur in most communities in more or less regular cycles.

Most persons regard statistics as dull and uninteresting. But the figures would not be dull if they could be visualized as the progressing record of living persons. Young Mrs. Jones has had her first baby; Tom Smith, a promising young artist, died of tuberculosis at 22; the Baker twins, hardly 3 years old, are seriously ill with measles; the Rev. James W. Brown died of a heart attack in the study of his church after forty years of service; Grandma Perkins died at the age of 101 of just plain old age; these are the human interest facts behind the statistics, some of which will be shown in the broadcast.

March 29: Man has subjugated animals to his use; but he has also subjected himself to many of their diseases. Many of these afflict man in his contact with the animals that labor for him or which he cultivates as pets. The principal diseases transmissible from animals to man which will be dealt with in the broadcast are the following:

(*a*) Rabbit fever, or tularemia, caught through skin lacerations which may be present on the hands when handling wild rabbits infected with the disease. Domestic breeds of rabbits do not have tularemia, but wild rabbits in captivity may.

(*b*) Rabies, otherwise known as hydrophobia, a disease primarily of the dog family but also found in cats, rodents, cattle and horses as well as man. It is transmitted through the saliva of rabid animals; therefore biting or licking may result in the spread of the disease. It is readily prevented by Pasteur treatment but impossible to cure once it has developed far.

(*c*) Parrot fever, or psittacosis, which gets its name from its prevalence among the so-called Psittacine birds, namely parrots, parakeets and other tropical birds commonly domesticated as pets. The measures employed to establish quarantines which will keep parrot fever out of the country will be shown in the broadcast.

Other illnesses primarily found in animals include parasite infestations, fungus infections and fevers of one kind or another, which will merely be mentioned briefly in the broadcast, together with their principal characteristics.

DR. JOHN GORRIE—Father of Air Conditioning

(*Continued from page 218*)

taken place, and the money drafts ceased to come from overseas.

In the meantime he had been given every advantage. He was graduated from the College of Physicians and Surgeons in New York in 1833. Here the phenomenally brilliant Asa Gray may have been one of his classmates, for the year following his graduation, Asa Gray was made an assistant professor at the college. During these years, Calhoun was very fond of young Gorrie, and he often stayed in the Calhoun home, so his social status must have been of the best.

After his graduation he and his mother went to Abbeville, S. C., where he practiced for a few months. Later they moved to the thriving port of Apalachicola. There he lived until his death. His mother had seen her son become not only a clever physician but a most gracious and finished gentleman; she died shortly after their move into Florida. In all the years that she lived she did not tell the secret of her life. If her son, John, knew it he was equally reticent, although Dr. Chapman did say that Dr. Gorrie believed his father was of royal birth. Later when questioned, his daughter insisted that he was of Scotch-Irish descent. Perhaps her father had not confided in her.

He was without doubt the most prominent citizen in the port and was a leader in all civic affairs. The port was a long way from Washington. Florida had but one representative in the lower house, and strange as it may seem, both of its senators had been born in the West Indies. He was in turn postmaster, a member of the city council, treasurer and mayor of Apalachicola.

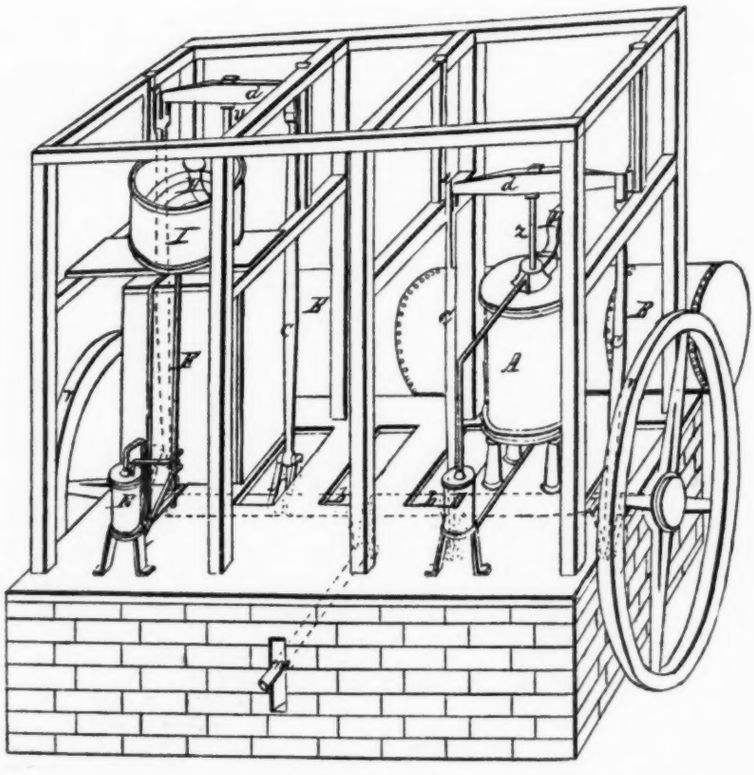
In 1839 he must have felt that he could serve the port better by giving all his time to his profession; so he resigned as mayor. About this time he began to work seriously on the problem of cooling the hospital, and by 1845 he had given up his practice entirely, except when epidemics caused an emergency or ships brought in some strange fever which baffled the other physicians in the port.

Chance had a hand in his discovery of making ice. Something went wrong in the windowless room where he was conducting his air conditioning experiments, and he found he had a cake of ice on his hands. From that time he concentrated on making ice cheaply and in abundance.

Next we hear of him at a dinner at the Mansion House in 1850, where the first public demonstration of his machine was said to have been given, although he had made ice as early as 1845. The summer of 1850 opened early and found Apalachicola without ice. The months went by, and the ice ships came in with little or nothing. A dinner to celebrate Bastille day was arranged by M. Rosan, a French cotton broker, who was also the French consul. It was to be a notable gathering of all the important persons in the port and the surrounding country. When the day came many continental cotton brokers were there to help celebrate it. For weeks they had watched for the ice ship, but it did not come. They gave up hope and expected to drink their toasts to France in lukewarm wine despite M. Rosan's wager of a basket of champagne that there would be ice and, what was more mysterious, that it would be made in the dining room.

The day arrived, hot and grilling, and still no ship from Maine. They met in the dining room and twitted the smiling consul on the loss of his champagne. On a side table was a clumsy contraption, which few knew was Dr. Gorrie's "ice machine." Dr. Gorrie was 37 then and is described by Judge Rankin in his address at the unveiling of the Gorrie monument in 1900 as having "the bearing of a thoughtful, serious man, studious and efficient, with a kind expression." He had dark hair and the eyes of the Spanish and was about 5 feet, 8 inches tall.

The description of his dress, which may not be so authentic, sounds scarcely like that of a country doctor who was also a hard working scientist. They say that his lithe figure was accentuated by velvet trousers, a waistcoat, much



THIS DIAGRAM OF THE ICE MACHINE WAS INCLUDED BY DR. GORRIE IN HIS APPLICATION FOR A PATENT IN 1851. IT OPERATED ON THE PRINCIPLE THAT THE RELEASE OF A COMPRESSED GAS (AIR IN THIS CASE) RESULTED IN THE ABSORPTION OF HEAT.

embroidered, and that he wore lace ruffles from Paris in his sleeves, although 1850 was a little late for lace ruffles, in America at least. A fine lawn ruffle down the front of the shirt was the utmost in "dressiness" that the well turned out man allowed himself in 1850. However it is quite possible that these clothes, which suggested a foreign court, might have been worn in honor of the French holiday.

Dr. Chapman was there. When he rose from his place to give the toast, he said, "We are not only celebrating the fall of the Bastille, but we are doing honor to our fellow townsman, our beloved John Gorrie, who by his inventive skill makes it possible to drink our wine chilled with the first ice made in America."

Then through the door of the dining room came proud waiters bearing high on silver trays blocks of ice, in shape and size about like a building block. M. Rosan was also supposed to have toasted Dr. Gorrie as well as France, and there was much clamor over the Florida-made ice. Later M. Rosan assisted Dr. Gorrie in making ice in the dining room on the side table before their very eyes. Another version has it that they all went out through the hot, steaming streets to his laboratory and that the ice was made there. In either event, that was the first public demonstration of ice making in America.

The honor was great, but to give the invention to the world took capital. Dr. Gorrie was not a rich man, nor were his friends more than comfortably well to do. Finally aided by a man from Boston, he was able on May 6, 1851, to have it patented. This patent, No. 8080, is said to be the first patent on a mechanical refrigerating machine. The principle was somewhat the same as many of those of today, the absorption of heat accompanying the expansion of air.

It would seem that success had at last come to him; but the newspapers in the North made much sport of the new invention. Their diatribes were not amusing to him, but tragic. Arduous and expensive trips which he made to New Orleans, Boston and other cities in search of capital met with little success. Ridicule had gone before him, and men of means refused to finance anything so revolutionary. The disappointment weighed heavily on him, and his last years were spent in sadness. He became very melancholy, and he died, June 16, 1855, at the early age of 52.

Perhaps had he lived, one of the things which would have hurt him most was the possibility that his friend, M. Rosan, who knew the secret of his invention, betrayed him. Rosan was an intimate of M. Carré, the Frenchman, who received the honor of inventing the first practicable refrigerating machine. M. Rosan went home to France and took with him the knowledge he had gained from Dr. Gorrie. This, he is said to have imparted to M. Carré, who a few years later had his machine patented.

If the world did not appreciate him, his townsmen did. It is said that such a funeral had never been known in Florida. The Masons went in a body; the entire staff of the Marine Hospital must have been there; the port authorities honored him, and all the women and children from the surrounding country marched with bared heads. The casket was borne on the shoulders of six young men and was followed by his son John.

Young John Gorrie later went to war and died just after his return. During these war years the family and the other Apalachicola citizens evacuated the town, and all of Dr. Gorrie's papers and plans were destroyed by the invading army.

Thus ends the story of this country doctor who had a vision. His purpose was not to ease the toil of legislators, not to make ice that industry would be more profitable, not to suit the temperature in theaters to the pleasure loving or to make journeys through hot deserts more bearable; it was to give comfort and perhaps renewed health to the sick and, if need be, to make dying easier, when torrid days and breathless nights were but an added burden to those harassed by pain.

CANCER CONTROL CAMPAIGN

The climax of the 1939 campaign for early diagnosis in cancer will be reached next month when the "Women's Field Army" of the American Society for the Control of Cancer sponsors the third annual nationwide drive against this disease.

SPEECH TRAINING for the PRESCHOOL CHILD

(Continued from page 250)

that shrill voiced children are those who have been subjected to shrill voices in their early infancy.

Do you blur your consonants? Can you readily say "admidst the mists"? Do you say "bid of budder" instead of "bit of butter"? If you do, you need a course in speech training; but lacking that, you can help your child by speaking slowly when you speak to him. As you decrease in speed, you will be likely to improve in enunciation. Linger over the words a little but avoid a monotone. Speed of speech is also a question of habit, but again application will result in quick improvement.

Do you reduce all vowels to a common "uh"? Americans have been criticized for this defect in speech and justifiably so. Say aloud the word "American." Americans frequently reduce every vowel in it to a "u," thus, "Umurrucun." How many u's were there in the way you just spoke it? You are about average if you said "Umericun." If you have this fault there is only one suggestion that can be made, aside from the speech course: Listen to yourself talk. Try it when you are talking to the baby. He won't mind; and if you improve, he will benefit by it.

Do you habitually speak in your "pleasantest" voice? We all have a pleasantest voice, and usually we save it for special occasions, using it when we are trying to mollify some one or to make a good impression. If you are inclined to save it—save it for the baby. He needs it as a guide in his own speaking.

CORRECTION

In the article by R. G. Leland, M.D., on "The Health of 40 Million People" which appeared in the February number of HYGEIA, there is a typographical error in the last paragraph of the first column on page 122. In the statement "there would still be only approximately 200,000 persons of the 40 million ill each day," the figure should be 2,000,000 instead of 200,000. The same correction applies to the repetition of the figure later in the same column.

Baby's First Soups and Meats

BABY'S first soups differ greatly from their highly seasoned counterparts that appear on the table for the adult and older child. Baby's soups are seasoned only with a small amount of salt. Highly seasoned foods may be irritating to the baby's delicate digestive system. Second, baby's soups are sieved to obtain a fine consistency that is favorable to easy digestion. The sieving process removes a large portion of the fiber; what remains is in such a finely divided condition that it is not irritating to the tissues of a baby's digestive tract.

Another striking difference is in the consistency of the soup. Ordinary soup is mostly liquid, whereas these soups are thick and are more easily eaten. This is an important factor when baby is learning to eat from a spoon. Because baby's soups are thicker, they have more food value per teaspoonful than the ordinary soup. A 2 ounce serving of a specially prepared sieved soup may be expected to have an energy value ranging from 23 to 34 calories.

In addition to calories, sieved soups contain appreciable quantities of vitamins A, B_1 and G. The soups containing liver or meat also provide significant amounts of iron and other essential nutrients. A young baby is apt to need more

ACCEPTED STRAINED SOUPS and MEATS

The following brands of canned sieved and chopped meats and soups for use in infant feeding stand accepted by the Council on Foods, Jan. 1, 1939, and are distributed by the manufacturers, who are privileged to use the acceptance seal:

BAY SHORE Sieved Beef, Lamb, Liver

BEECH-NUT Sieved Vegetable Soup

CLAPP'S Sieved Baby Soup; Beef Broth; Original Liver Soup; Vegetable Soup; Unsieved Vegetable Soup

CLAPP'S Chopped Vegetable Soup with Cereals and Beef Broth; Liver Soup with Cereals and Beef Broth

GERBER Sieved Vegetable Soup with Beef, Barley and Wheat Germ

HEINZ Sieved Vegetable Soup with Cereal and Yeast Extract; Beef and Liver Soup with Vegetables

LARSEN Sieved Vegetable Soup; Vegetable Soup with Cereal and Beef Broth

MRS. PALEY'S Sieved Mixed Vegetables with Soya Bean, Dicalcium Phosphate and Wheat Germ; Beef; Beef Broth; Calf Liver Soup with Vegetables and Cereal; Vegetable Soup with Beef Broth and Cereal

STOKELY Sieved Beef Broth; Liver Soup; Vegetable Soup with Beef Broth; Unsieved Vegetable Soup with Cereals and Beef Broth

VAN CAMP Sieved Vegetable Soup

The following brands of canned sieved and chopped meats and soups for use in infant feeding stand accepted by the Council on Foods, Jan. 1, 1939, and are distributed by firms who purchase the products from manufacturers, who are privileged to use the acceptance seal:

A-C Sieved Vegetable Soup with Cereal and Beef Broth

AMERICAN LADY Sieved Vegetable Soup with Cereal and Beef Broth

BBBB Sieved Vegetable Soup with Cereal and Beef Broth

DOT Sieved Vegetable Soup with Cereal and Beef Broth

DRAKE Sieved Vegetable Soup with Cereal and Beef Broth

EAVEY'S E Sieved Vegetable Soup with Cereal and Beef Broth

EDELWEISS Sieved Vegetable Soup with Cereal and Beef Broth

FAIRWAY WHITE LABEL Sieved Vegetable Soup with Cereal and Beef Broth

FRUITIDOR Sieved Beef Broth; Liver Soup with Vegetables and Cereals; Vegetable Soup with Beef Broth and Cereal; Unsieved Vegetable Soup with Beef Broth and Cereal

HALE'S PRIDE Sieved Vegetable Soup with Cereal and Beef Broth

HAPPY HOUR Sieved Vegetable Soup with Cereal and Beef Broth

I. G. A. Sieved Vegetable Soup with Cereal and Beef Broth

KO-WE-BA Sieved Vegetable Soup with Cereal and Beef Broth

KRASDALE Sieved Vegetable Soup with Cereal and Beef Broth

LITTLE ELF Sieved Vegetable Soup with Cereal and Beef Broth

MACY'S Sieved Vegetable Soup; Beef Broth; Liver Soup; Unsieved Vegetable Soup with Beef Broth and Cereal

MONARCH Sieved Vegetable Soup with Cereal and Beef Broth

OPAL Sieved Vegetables with Cereal and Beef Broth

PLEE-ZING Sieved Vegetable Soup with Cereal and Beef Broth

POCAHONTAS Sieved Vegetable Soup with Cereal and Beef Broth

RANNEY'S Sieved Vegetable Soup with Cereal and Beef Broth

RED & WHITE Sieved Vegetable Soup with Cereal and Beef Broth

RE-JOYCE Sieved Vegetable Soup with Cereal and Beef Broth

RIVAL Sieved Vegetable Soup with Cereal and Beef Broth

ROBIN Sieved Vegetable Soup with Cereal and Beef Broth

ROUNDY'S SUPREME Sieved Vegetable Soup with Cereal and Beef Broth

SAVOY Sieved Vegetable Soup with Cereal and Beef Broth

SHURFINE Sieved Vegetable Soup with Cereal and Beef Broth

SWEET LIFE Sieved Vegetable Soup with Cereal and Beef Broth

UCO Sieved Vegetable Soup with Cereal and Beef Broth

WHITE SWAN Sieved Vegetable Soup with Cereal and Beef Broth

WINFIELD SUPREME Sieved Vegetable Soup with Cereal and Beef Broth

iron and more vitamin B_1 than can be obtained from human milk or suitably modified cow's milk. For this reason, many physicians advise mothers to give babies small portions of sieved foods, properly selected to meet the needs of the infant, after the first or second month of life.

Some mothers prefer to start babies on sieved soups because of their nutritive value and bland flavor. It is desirable, however, to give separate sieved vegetable and meat preparations at least part of the time so that baby can learn to like many foods. As all mothers know, babies readily form habits with respect to foods that, once formed, are not easily broken. For this reason it is considered important to introduce a variety of flavors and to accustom the child early to taking food from a spoon.

Sieved soups and meats may be prepared in the home, but commercially prepared products are convenient, and their texture and flavor are always uniform.

A large variety of canned sieved soups and meats are now available. The American Medical Association's Council on Foods has accepted several brands of such products. These may be classified as follows:

(1) Sieved vegetable soup
(2) Sieved vegetable with cereal and beef broth soup
(3) Sieved liver with vegetables, cereal and beef soup
(4) Unsieved vegetables with cereal and beef soup
(5) Beef broth
(6) Sieved liver and meat soups
(7) Soups containing, in addition to vegetables, cereal and meat broth, preparations such as yeast extract or wheat germ or mineral salt.

Sieved vegetable soups consist of a variety of vegetables selected to complement each other's nutritional values, cooked in vacuum to proper softness, sieved and packed in cans and processed. The most common vegetable combinations are carrots, spinach, peas, tomatoes, potatoes, celery and green beans.

The sieved vegetable and cereal soups contain a variety of vegetables and cereals. The cereals most commonly used are rice, barley flour and pearl barley. The accepted liver soups usually consist of liver and definite proportions of vegetable soup or of the vegetable and cereal soup. The accepted sieved liver and meat products are

YOU HAVE SOME, TOO
says Johnny Pineapple from Hawaii
That glass is full of Patty's favorite drink—Dole Pineapple Juice from Hawaii. Young as she is, she knows that everyone likes Dole Pineapple Juice. Patty and her family live right in Hawaii, where pineapples grow. They know that Dole Pineapple Juice has the real pineapple flavor and tang. Patty's mother knows, too, that Dole Pineapple Juice, natural, pure, and unsweetened is good* for Patty.
You'll love it before breakfast—between meals—as a party drink.
*Mothers: Dole Pineapple Juice is rich in valuable nutritive elements, and contains Vitamins A, B, and C.
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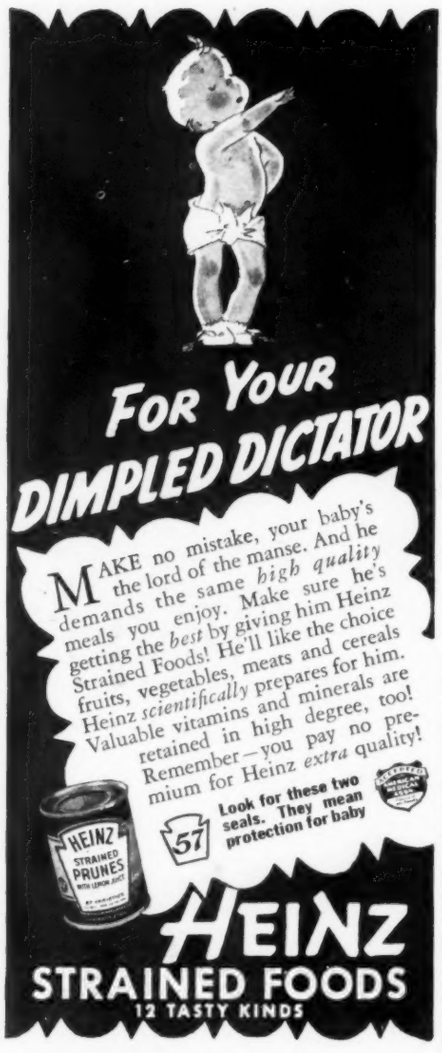
DOLE
PINEAPPLE JUICE
FROM HAWAII
Hawaiian Pineapple Co., Ltd., also packers of Dole Pineapple "Gems," Sliced, Crushed, Tidbits, and the new "Royal Spears." Honolulu, Hawaii, U.S.A.—Sales Offices: San Francisco, Cal.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Look for these two seals. They mean protection for baby
57
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Satisfactory Results or Money Refunded
MAIL $1.00 to Dept. 76
CHILD WELFARE GUILD, 386 4th Ave., N.Y.

prepared from U. S. government inspected calf's liver and beef and lamb cuts of meat.

The recipe and composition for each accepted sieved soup, liver and meat product may be found on the label of the can. The ingredients are listed in order of decreasing occurrence.

Normal babies are able to digest sieved soups and meats after the first or second month of life. At about the sixth or eighth month, sieved foods should be replaced with coarser foods. Many babies are mistakenly fed sieved foods throughout the period of infancy and even beyond. With such babies, it is common experience that they can be induced to eat coarser foods only with the greatest difficulty.

Sieved soups and meat also are useful for adults who are on soft diets or low residue diets. These products make it possible for such persons to obtain their supply of minerals and vitamins. They also add flavor and attractiveness to an otherwise bland diet.

For those sieved soups, liver and meat products which have been accepted by the Council on Foods, consumers may be sure that the statements made about the product by the manufacturer are true. For most products, the companies have provided appropriate information indicating that the vitamin and mineral content of the fresh foods have been retained to a high degree.

FAMOUS PREMATURE BABIES (Continued from page 206)

milk in the feeding of immature babies was not universally recognized as it is today. In earlier times, many babies did receive breast milk; but for centuries infant feeding remained unscientific. Goat's or cow's milk, or "pap," which consisted usually of bread moistened with milk, water or beer, and panada were given in large quantities and as often as the child cried. It seems miraculous that any premature infant could survive on such artificial feedings.

Another difficulty frequently encountered in the feeding of prematures is an undeveloped sucking reflex, which is particularly unfortunate in the very small. To overcome this, forced feeding by stomach tube and Breck feeder (an enlarged eye dropper with a nipple at one end) was introduced the latter half of the nineteenth century. This improvement resulted in conserving the vitality of many who otherwise would have starved.

At present, it is well known that about two thirds of the body minerals are deposited during the last months of intra-uterine life, and lack of these in the baby born before the ninth month may lead to rickets, anemia and other deficiency diseases unless the feeding is supervised by a physician.

One of the most important factors in the care of these babies is the prevention of infection, for they are more susceptible than full-term babies. Infection can be controlled only by proper isolation and freedom from contact with visitors, and especially attendants, with respiratory infections. Those who handle the baby should wear suitable gauze masks and gowns.

As the premature infant loses its wrinkled, "worried" appearance and becomes more doll-like, parents, relatives and friends begin to wonder about its physical and mental growth. In a study on the physical and mental development of premature infants, it was found that the boys "catch up" in weight with the full-term boys by the fourth or fifth year. Premature girls always weigh slightly less than full-term girls. As a rule both premature boys and girls are under-height compared with the full-term children until the third year. There was no difference in mentality, the school rating being equally as good.

From the foregoing, it can be seen that with modern medical care the premature baby can be helped to overcome his initial handicap and not only can compete with those fortunately starting out with a fully-developed little body but can often excel them.

Nevertheless, the longer the baby can remain in the uterus, the better for both mother and child, in every way. Medical science has come a long way since the time of these "famous prematures," but the problem still requires close cooperation on the part of the public. When the prospective mother places herself in the hands of her physician early in pregnancy, she greatly increases the probability that she will carry her baby on to full term.

What's Your Score?

Presented herewith is a set of statements, some of which are true and some false. Do you know which are wrong, and why? The information is taken directly from the articles appearing in this issue of HYGEIA, and you may check your answers with the right ones, found on page 275. T is for true and F for false; encircle the right letter before each statement.

T F 1. Acidosis is a relatively rare complication of organic disease and rapidly causes serious symptoms.

T F 2. Typhoid may be mistaken for appendicitis when contemplating the symptoms.

T F 3. The heat of the mineral baths relieves rheumatic pains and softens deposits around the joints.

T F 4. Dr. John Gorrie was known for his experiments with cures for pneumonia.

T F 5. An exercise that benefits one person's musculature will always benefit another person in the same way.

T F 6. A cup of breakfast coffee may clear away a headache due to too much smoking the night before.

T F 7. Bubonic plague was the cause of the mysterious epidemic of disease in Byzantium in 540 B.C.

T F 8. As a special field of study, psychology may be traced as far back as the Renaissance.

T F 9. Pinworm infestation in human beings has been estimated at higher than 50 per cent.

T F 10. Ice cream has very little nutritive value.

T F 11. The best time for public health officials to fight epidemics of smallpox and diphtheria is when there are no cases of the diseases in the community.

T F 12. The figures available show that more than 10 per cent of our entire population has some speech defect.

T F 13. Watercress, like most vegetables, contains only a small amout of iron.

T F 14. The sensitivity of the organs of taste and smell are such that they cannot be compared.

T F 15. Not every small break in an otherwise good tooth is necessarily the result of decay.

PROTECTIVE FACTORS OUR BODIES NEED DAILY

For Normal Digestion
Apples are rich in substances which help promote normal intestinal activity — are an aid to good digestion.

Teeth and Bones
Apples are a good source of vitamin C, which is a recognized essential in promoting growth and maintenance of sound teeth and bones.

Vitamin A Values
Apples are also rated a good source of vitamin A, an essential food factor for maintaining normal resistance of the body to infections in general.

Additional Values——Apples provide an alkaline mineral residue. And they are rich in pectin, which combines with water to form a kind of "bulk" not irritating to the intestine.

—IN THESE FRESH, CRISP
Washington State Apples

OUR APPLE HOUR — You'll *like* this health custom we enjoy so much up here in Washington State. Regularly each night at the children's bedtime, we pass the apple bowl around. Then everybody eats at least one sprightly-flavored Winesap or crisp Yellow Newtown, chewing each bite well. Like all Washington grown varieties, these magnificent apples are especially grown for *eating*. Each is washed, wrapped when packed, and rushed to your city in iced cars. Ask your dealer for some Washington State Apples *today*

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• Here is a way to add vitamins to your diet and give pleasure to your palate — drink Dr. Phillips Orange and Grapefruit Juice. Uniformly rich and full of flavor. Tree ripened and canned fresh from the grove under the most scientific conditions. Get several cans from your grocer today.

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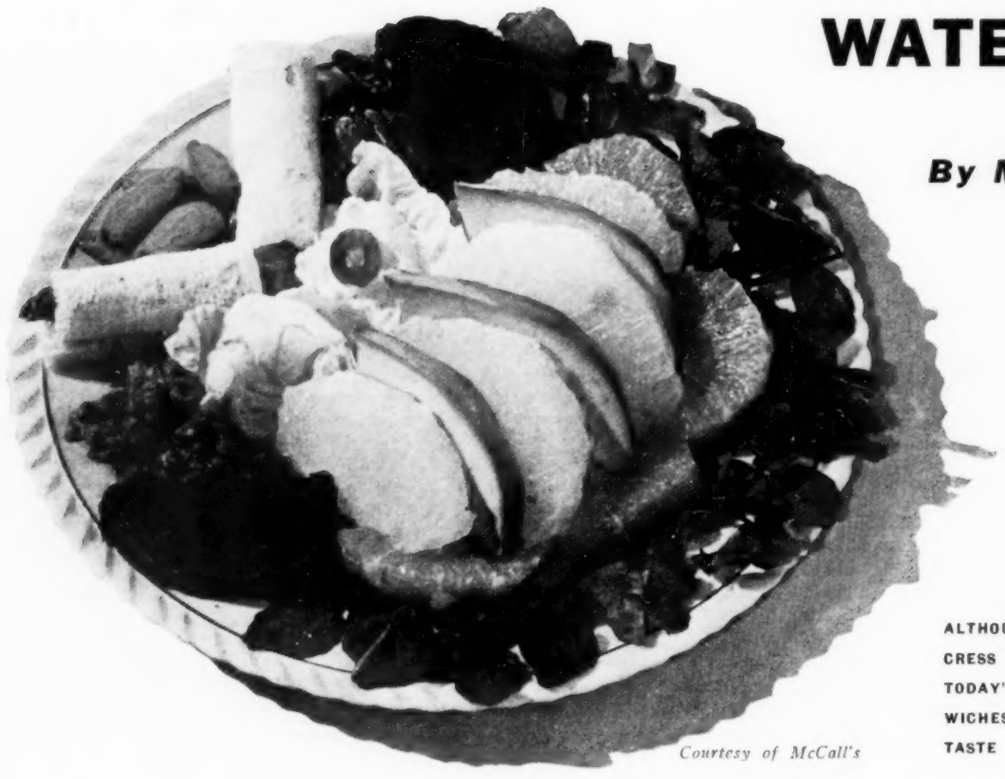
Orlando, Florida

WATERCRESS

By Marion Dartnell



Courtesy of McCall's

ALTHOUGH THE FIRST USE OF WATERCRESS DATES BACK TO ANTIQUITY, TODAY'S SALAD PLATES AND SANDWICHES MAKE FULL USE OF ITS TASTE APPEAL AND VITAMIN VALUE.

WATERCRESS is a hardy water plant which grows in almost every section of this country where there are fresh, slow-running brooks with gravel bottoms. The stems spread and take root at the lower joints. The leaves are of a roundish, heartlike shape much resembling the first leaves of the radish. The foliage of watercress has a pungent, delightfully peppery taste with a little saltiness due to an oil containing sulfur.

The family to which watercress belongs is a large one of annual and perennial herbs with pungent water juice—a botanic order noted for its vitamin C content. A few of the useful members of the family are cabbage, cauliflower, kale, Brussels sprouts, mustard, cress, turnips and radishes. Among the garden flowers are candy top and sweet alyssum, stock and those beautiful orange or yellow and spotted flowers, the nasturtiums.

As a green food, watercress has stood the test of thousands of years. It has a time-honored and widespread reputation as a health promoting food. No vegetable has received greater attention or more praise for its valuable properties than watercress. Its virtues have been known and recorded since a remote period in antiquity.

Watercress was in great favor among the ancient Persians as well as the Greeks and Romans, not only as a medicinal agent but also as a food. Xenophon seems to have been in possession of knowledge as regards the important influence of the dietetic use of watercress. He advised the Persians that if they desired to improve the bodily growth of their children they should feed them watercress. In this respect, Xenophon may be regarded as a forerunner of the vitamin school.

The ancient Greeks had an idea that the eating of watercress would put more life and intelligence into dull and stupid persons; hence, the ancient proverb, "Eat more cress and learn more wit."

Many statements concerning the scurvy-preventing properties of watercress are found in the old books. Gerarde, the English botanist, wrote in 1597 that "watercress is very good against the scurvy or scorbute." Scurvy is a nutritional disease caused by the absence of vitamin C in the diet. Gerarde also recommended it in the treatment of anemia, writing, "The eating of watercress doth restore the wanted bloom to the cheeks of old young ladies."

Recent studies in nutrition show that watercress contains four, if not five, of the known vitamins. It is remarkably rich as a source of vitamin A and a potent source of vitamin C. Of the leafy vegetables such as lettuce, cabbage and spinach, it is the richest source of vitamins B_1 and G. It also contains a small amount of vitamin E. The amount of these vitamins found in 100 grams of fresh watercress is reported to be as follows:

Vitamin A.....	1400	international units
Vitamin B_1.....	60	international units
Vitamin C.....	1000	international units
Vitamin G.....	60	Sherman-Bourquin units

There is a remarkable quantity of mineral matter in watercress. Most vegetables contain a small quantity of iron, but watercress contains five times the quantity of iron ordinarily found in cabbage, celery or head lettuce. It contains a greater percentage of iron than spinach.

Watercress also contains a considerable amount of copper; hence it is valuable in the diet where there is an insufficiency of iron and copper. The mineral content of 100 grams of fresh watercress is reported to be as follows:

Calcium	80	mg.
Phosphorus	53	mg.
Iron	3	mg.
Copper	0.4	mg.
Manganese	0.5	mg.

Watercress has not only been held in high esteem by the select brotherhood who eat to live, but it has been also a favorite vegetable among the vast multitude who live to eat. Lord Bacon wrote, "A good cook, who has a knowledge of the virtues of vegetables, will not fail to serve the table of his employer with spring soups and broths, in which watercress forms a principal ingredient, nor will he neglect the good old custom of garnishing the winter capon with a nest of watercress."

The use of watercress in salads dates back to antiquity. The ancients ate watercress with lettuce to "counteract the cold nature of that plant." The Chinese use watercress in many of their dishes, which gives them an odd flavor. They dry the watercress before using by placing it in a dry warm room for 12 to 15 days. After being dried in this manner it can be freshened again by placing in cold water for about 12 hours. The Chinese have used watercress longer than any other people.

Watercress lends the different touch that the housewife is continually seeking to tempt the tired appetites of the members of her family, the touch that makes them wonder why a particular dish is so palatable. Watercress cooked and served like spinach is an excellent dish. Watercress sandwiches are delicious and a most welcome accompaniment to afternoon tea. Watercress also affords a wide scope for unusual flavor in otherwise commonplace viands. It adds zest to any cold meat, fish or egg sandwiches. A roast shoulder of lamb stuffed with watercress dressing is delicious. The flavor of roast veal or venison is greatly enhanced by a watercress dressing.

Watercress Salad

Clean and stem the watercress. The stems which are too large should be discarded. Place the watercress in a bowl. Add a brine made of 1 cupful of diluted vinegar (the dilution depends on the strength of the vinegar) and 1 tablespoonful of sugar. Let stand in the refrigerator overnight. When ready to serve, pour off the brine, and arrange watercress on salad plates or in salad bowl. This is delicious served with the following dressing: To ½ cupful whipped cream add ½ cupful mayonnaise dressing, the juice of one lemon and salt to taste.

Watercress and Celery Salad

Clean and stem the watercress. Then string outside stalks of celery, and dice into half-inch pieces. Place both celery and watercress in iced water for about two hours in order for them to become firm and brittle. Drain off all the water. Add a hard boiled egg and a green pepper, which have been chopped, and season with salt and white pepper. Serve on lettuce with French dressing.

Watercress with Roquefort Cheese Dressing

Prepare a regular French dressing, tart with lemon juice. Just before serving add crumbled Roquefort cheese to the dressing to taste. Pour the dressing over the crisp, cleaned and stemmed watercress. Another way to prepare this salad is to mix the watercress with the French dressing and sprinkle the cheese on top of the salad.

Sunshine Salad

Place a slice of pineapple in a nest of watercress, and radiate orange sections around this. Serve with the following fruit dressing:

½ cupful orange juice
¼ cupful sugar
2 egg yolks
½ cupful whipping cream
2 tablespoonfuls lemon juice

Mix the orange juice with the beaten egg yolks, and cook over hot water, stirring constantly, until smooth and thick. Add the lemon juice and sugar. When this mixture is cold, stir in the whipped cream.

Walnut and Watercress Salad

Lay kernels of 30 English walnuts on a layer of sliced oranges. Pour the juice of one lemon over this, and let stand in a refrigerator a few hours. Wash, clean and stem the watercress, and let stand in ice water until crisp. Just before serving add the watercress to the walnuts and oranges. Serve with a rich French dressing.

Watercress Sandwiches

1 cupful crisp watercress
2 tablespoonfuls mayonnaise
Salt
Paprika

Use only the leaves of the watercress. Chop them coarsely, and blend with the salad dressing and seasoning. Spread between thin slices of white, graham or whole wheat bread.

Watercress Butter

1 cupful finely minced watercress
½ pound butter
2 teaspoonfuls lemon juice
1 tablespoonful water
A dash of Worcestershire sauce

Cream the butter and the finely minced watercress. Add lemon juice, water and the Worcestershire sauce. Spread between thin slices of bread.

Garden Sandwiches

1 cupful finely diced cucumber
¼ cupful finely sliced radishes
¼ cupful watercress chopped fine
4 tablespoonfuls butter
3 tablespoonfuls mayonnaise dressing

Chill the vegetables well. Cream the butter and the watercress. Spread bread with this mixture, and add the vegetables which have been moistened with the dressing. Add salt and pepper to taste. This will make 12 sandwiches.

Watercress and Cream Cheese Sandwiches

1 package Philadelphia cream cheese
1 cupful finely chopped watercress
Juice of 1 lemon

Blend the cheese and the watercress, add the juice of 1 lemon, spread between slices of bread.

Wilted Watercress and Lettuce

Place 1 tablespoonful butter and 2 tablespoonfuls flour in a saucepan; mix well and brown. Add ½ pint thin stock, and let come to a boil stirring constantly. Add salt and pepper to taste and a little nutmeg and the juice of 1 lemon; then add the cleaned and chopped watercress and lettuce. Let come to a boil, and serve with buttered croutons.

This Seal

Is evidence that GOOD LUCK Margarine and the advertising claims made for it have been accepted by the Council on Foods of the American Medical Association.

JOHN F. JELKE CO., CHICAGO

For EVERY MILK PURPOSE

● Particularly for infant feeding, Van Camp's Evaporated Milk is widely recommended by physicians because it is uniform in composition and readily digestible. Used in cooking, it adds a rich, creamy flavor to many dishes. Contains double the amounts of fat, protein, minerals and milk sugar in cow's milk. Sterilized and homogenized.

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Church's Pure Natural Grape Juice ●

made from properly ripened grapes. Contains no added sugar, water or other substance whatsoever.
Free from the excess acid of unripened fruit.
Church Grape Juice Company, Kennewick, Wash.

DURKEE'S DOUBLE FLAVOR VEGETABLE MARGARINE

● Made by a new process that whips the goodness of the pure, pasteurized fat-free milk and wholesome vegetable oils right into the product.

FOR COOKING BAKING, FRYING SPREAD FOR BREAD

DURKEE FAMOUS FOODS, Chicago, Ill., Norwalk, O.

DO YOU LIKE GOOD CREAM CHEESE?
HAVE YOUR DEALER SHOW YOU THE NAME
Breakstone's
WHEN HE CUTS YOUR ORDER

THIS TOMATO JUICE IS NEVER THIN OR WATERY

Always drink Kemp's Sun-Rayed—the pure, undiluted juice of WHOLE tomatoes. Delicious. The Sun-Rayed Co., Frankfort, Indiana.

Mention HYGEIA
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Veal and Watercress Roll

1 large slice veal round, cut ⅓ inch thick
1 cupful watercress, finely chopped
1 carrot, sliced
½ cupful walnut kernels, finely chopped
1 stalk celery, chopped
2 bay leaves

Select a large, thin, evenly cut veal round, free from fat and bone. Spread it out on a meat board, wipe with a damp cloth, then cover with a layer of chopped watercress and chopped walnuts. Sprinkle with salt and pepper, then roll lengthwise into a tight roll, tying securely with twine at every two inches of its length, and roll lightly in flour. In the bottom of a casserole or stew pan arrange the sliced carrot, the diced celery and bay leaves, and place the veal roll on top of the vegetables. Pour in hot water to the depth of an inch, add a little salt, then cover closely and bake in a moderate oven (350 F.) for an hour and a half. When done, remove the roll, cut and remove the strings, and serve hot with gravy; or allow the meat to cool, then slice it and serve it with watercress, having the slices of meat alternate with slices of raw tomato. Dress with mayonnaise.

Watercress and Dandelion Salad

3 cupfuls watercress
1 cupful dandelion greens
6 thin slices raw onion
French dressing

The dandelion should be fresh and young. Wash the dandelion and watercress carefully, and drain off well. Place the greens in a salad bowl. Add the slices of onion, and pour French dressing over all. Mix thoroughly by tossing lightly with a fork, and serve immediately.

Boiled Watercress

Wash the watercress in salted water. Pick and clean it thoroughly. Place into boiling salted water for 7 minutes. Drain, and serve with butter and lemon juice.

America's Favorites

Sunday Night Supper Salad

1 No. 1 can of crushed pineapple
1 package of lime or lemon gelatin
2 cupfuls of liquid (pineapple juice and water)
2 cupfuls chopped watercress
1 pound of cottage cheese
Mayonnaise, cream, paprika

Dissolve the gelatin in 1 cupful of boiling water, and add juice from pineapple with enough water to fill cup. When cool add crushed pineapple. Line bottom of ring mold with chopped watercress, then fill mold with gelatin pineapple mixture. Chill, and when firm, turn out on a bed of lettuce. Fill center with cottage cheese. Top with a generous spoonful of mayonnaise thinned with cream and a dash of paprika.

Watercress Stuffing I

3 cupfuls fine dry bread crumbs
1½ cupfuls finely chopped watercress leaves and stems
6 tablespoonfuls butter
3 tablespoonfuls chopped celery
1½ tablespoonfuls chopped onion
¾ teaspoonful salt
⅛ teaspoonful pepper

Melt half the butter in a skillet, and add the onion and celery. Cook for 2 minutes, and add the finely cut watercress and the other seasonings. Push this mixture to one side of the skillet; and in the empty part, melt the remaining butter, and stir in the bread crumbs. When they have absorbed the butter, mix all the ingredients together. Allow the liquid which cooks out of the watercress to evaporate before the buttered bread crumbs are added.

Watercress Dressing II

1½ cupfuls chopped salt pork
4 cupfuls chopped watercress
2 cupfuls chopped celery
1 cupful chopped onion
8 cupfuls bread crumbs
2 teaspoonfuls savory seasoning
½ teaspoonful pepper
2 teaspoonfuls salt

Fry the salt pork until crisp, remove it from the pan, and cook the watercress, celery and onions in the fat for about 10 minutes. Add the bread crumbs, the fried salt pork and the seasonings, and stir until well mixed.

ADULTS, AGE 21-40 (Continued from page 221)

It was a good idea, however, and may conceivably be reintroduced more successfully. Stockings as made in the present shape exert equal pressure on both sides of the foot. If they are short or tight, the pressure may be definitely distorting. Woolen stockings are apt to shrink and since they are less yielding than silk ones, they are even more dangerous to the muscular development of the foot if too short. Many bunions, hammer toes and other deformities are the result of short narrow stockings and shoes.

While we are on the subject of clothes, here are a few other practical suggestions. Tight, round garters or rolled stockings interfere with circulation, resulting not only in cold feet but frequently in varicose veins which may become painful and definitely handicapping. Corsets and girdles may be crutches for lazy women to lean on. If they are tight they not only limit the activity and development of trunk muscles, but they interfere with the circulation and tend to restrict vital organs and thereby normal functions. As pernicious as tight corsets are tight brassières. These not only interfere with proper chest expansion, but all too often they injure the tissue of the breast by constant pressure which may have future disastrous results. Clothes that are loose and free can be well fitting and much more hygienic and far more comfortable than those which are tight and restricting.

A suggestion that applies equally to men and women may be made concerning occupations, especially sedentary occupations. It is not only what we do, but how we do it that counts. This applies to physical as well as to mental and emotional habits. If the executives both of large corporations and of small office forces would realize that to seat their secretaries and stenographers comfortably and correctly would assure more accuracy, more speed, more concentration and therefore greater efficiency, they would not only aid the health of their employees but save money for themselves.

This fact was recognized during the World War but has since been largely neglected. If those who must sit to do their daily stint would have their desks or tables and chairs arranged to meet their individual needs, many would not suffer the consequences of continual poor sitting positions, which may include both muscular fatigue and functional disturbance. Student, typist, bank clerk and writer need the same adjustment of their equipment as do growing children. Of course once the chair, table, desk, footrest, if necessary, and light have been satisfactorily arranged, it is up to the sitter to sit correctly. Bend forward from the hips, with the back flat, the chest broad and the arms free to do what is required. You may say that this tires your back. That means that those muscles are weak, are unaccustomed to being used and need strengthening. Specially adapted exercises will help, as will an occasional relaxing against the back of the chair.

It is an excellent plan, too, for sedentary workers to stretch out flat for two or three minutes at intervals during the day. Try it when you are weary with long sitting. Or get up and move briskly about the room, though this is not as effective as assuming a horizontal position on a cot or mattress or on the floor. Every office should provide some kind of a restroom for employees, where they can lie down and renew their energies.

If you are working indoors all day, using your brain instead of your brawn, remember to take some form of active exercise outdoors every day to balance the indoor activity. Seek advice from your physician as to whether your favorite form of outdoor exercise is supplying your particular physical needs or whether it should be supplemented by additional sports—or just more time devoted to it.

The important thing is to develop a healthy sense of proportion, of balanced values. It is a question of getting off to a good start and of keeping up along the way. Nor need this be a burdensome concentration on monotonous routine. Life cannot be lived on a dead level. But if from time to time you indulge yourself in any way, balance the excess like a sensible person.

The cheery cup
That chases chill
And "picks you up"
... That's BOVRIL!

SOOTHINGLY WARMING—mildly invigorating—deliciously tasty . . . what other food-beverage so happily combines three such valuable qualities?

Furthermore, BOVRIL "Beverage Beefsteak" is so easily assimilated and so gently aids the processes of digestion that it is particularly suited to the dietetic requirements of invalids, convalescents, elderly folks.

And—as a pure, appetizing beef drink for normal individuals, BOVRIL counts its followers by the million! It has been *"Great Britain's Great Bracer"* for fifty years. Drink it freely—at or between meals; at bedtime; before or after braving outdoor cold or drizzle.

AT FOUNTAINS, 10c A CUP—HOT

At food and drug stores, in jars for home, sickroom and hospital use. 20 to 30 pounds of prime, lean beef are required to produce one pound of the extract used in BOVRIL concentrate. Manufactured with infinite care and unquestionable cleanliness.

BOVRIL OF AMERICA, Inc., Camden, N. J.

BOVRIL

"BEVERAGE BEEFSTEAK"

ALSO BOVRIL BEEF BOUILLON CUBES

CUTTING A FASHIONABLE FIGURE (Continued from page 215)

cles long is possible because the erector spinae muscles that lie along the spinal column are arranged in overlapping segments. The establishment of this posture will encourage the shoulders to come down from their "high horse" and hang easily at the sides instead of being thrust backward.

Walk with the chest! The chest starts you into motion. The chest is like the bow of a ship majestically slipping its way through water. Try it before a mirror. Watch the side view. Do not push yourself into a walk or reach out for it. Let your chest lead you. Imagine it is March. You walk leaning against the wind, and your chest draws you through it. It is well to know how to use the feet, but your feet can work so infinitely much better if the chest, not your chin, or your stomach or your knees but the upper part of the chest is the leading portion of your anatomy when your body moves. The exercises prepare the muscles of the body by stretching some and strengthening others; but it must be remembered that exercises are only a means to an end, and that end is smoother body locomotion.

Nothing has yet been said about the posture of the feet. As is usual the poor things are accustomed to being neglected. Rightfully, of course, they are the real foundation of the body and should have first consideration.

Feet that stray from the straight and narrow make the person to whom they belong seem *"all feet."* Only toes that point forward like railroad tracks are inconspicuous. Train yourself before a mirror. Walk slightly pigeontoed for a while so that the forward walk will not seem so utterly strange. This is to educate your kinesthetic sense. Then when the toes "toe the mark," watch your mirror like a hawk to see that there is not one wiggle left. When feet turn out, the rest of the body is forced to do extra work. Ordinarily the spring of the arch carries the body forward to the next step. Arches in the awkward position of toes out cannot function except to bear weight, which they were not intended to do; so the muscles of the trunk with a twist and a pull have to manage to swing the heavy foot and leg forward into the next step. When the legs are carried along in this manner they are deprived of the exercise that keeps them slim and graceful and so take on excess weight, becoming fat and ugly and making locomotion exceedingly difficult. It is this twisting gait of the pelvis and shoulder girdles that so frequently remains after the toes have been educated to chart their straight ahead course. It can be eliminated just by watching and checking the extra motion while striving for a smooth walk before a mirror. To retain the wiggle is to appear like a fussy somebody or a snobbish, self satisfied minx.

When you have prevented the setting of your figure from being conspicuous because of its ugliness you have also partially succeeded in helping it to perform better its other mission in life, that of getting the figure about from place to place. Incidentally you may also be bringing the setting back into conspicuousness again, this time because of its sheer beauty of line and symmetry.

When the feet are boldly forging straight to the front, the next problem to deal with is the toes. The toes are the pushers and the anchors to the feet and legs. In walking, the toes, and especially the great toe, should be the last part of the foot to leave the ground. The very second the foot touches the ground the toes should be down and gripping. This is true for toes incased in shoes too! Too many toes turn up, and the heels suffer the entire impact. In the correct walk the heel touches the ground first; but the weight of the body is far enough forward so that the toes immediately come into play.

Toes that remain straight or pull back toward the heel show that the foot and leg muscles are all equally balanced, and the work of the feet is most easily accomplished. When the toes turn up either because the weight remains on the heels or the feet have to contend with foolish skyscraper heels, the back leg muscles and the top toe muscles become too short. These two sets of muscles have to be gently stretched before muscle equilibrium can be restored. The restoration of this muscle balance will likewise restore both the longitudinal and metatarsal arches if the bony framework has not become too distorted. The function of the arches is not to support weight but to provide elasticity to the walk and to protect the nerves under the feet from pressure of body weight. To do this it is imperative that the back leg muscles and the top toe muscles be long, the inside leg muscles short and the muscles on the bottom of the foot strong and fairly taut.

The correct equalization of muscle balance can be most quickly brought about by the following exercises:

1. Airplane and bicycling as previously described. These lengthen the back leg muscles.

2. Sit on the floor with legs straight and widely separated. Keep the knees touching the floor. Try to touch the head to each knee. Do not be discouraged if unable to do this for a long time.

3. Sit. Work the toes downward. The feet are kept at right angles to the leg. Grip the toes as the hands are gripped when making a fist, and with the hands press down on the top muscles of the foot just back of the toes where the tendons are most prominent. This will hurt, so do it gently but persistently. This exercise lengthens the muscles on the top of the foot and strengthens the flabby ones on the bottom. After a little manipulation the muscles can be felt to stretch.

4. Sit. Keep the knees apart and the feet about 1 foot apart. Keeping the toes down and straight, draw the toes of the feet toward each other. Do not move the heels. Return the feet to the parallel position, not a notch beyond. Repeat the exercises until the inside leg muscles tire. This shortens the inside leg muscles.

5. Walking posture is most important. The upper part of the chest should be in direct line with the ball of the forward foot. Do not be surprised if you feel as if you were going to fall on your nose. This keeps the weight of the body forward and off the heels, the back leg muscles short and gives the toe muscles opportunity to work in the right way.

6. Feet that always work as described will guard the hips from flabby, hamlike sides and the ankles from buns of fat that bulge over

Many school Doctors and Nurses recognize

Chewing Gum as a Mouth Health Aid

It's a boon to the school doctor and nurse to be able to recommend for children something they just naturally love. Chewing gum — as healthful as it is popular — is a cleansing agent for the teeth that children willingly use. The chewing provides stimulating exercise for their gums. So, Parents and Teachers—there's a reason, a time and a place for Chewing Gum.

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the insides of foot gear. An exercise called "Scissors" will *wear* away the fat from the sides of the thighs, but it will not *keep* it away as will the correct use of the feet in walking. "Scissors" also strengthens the muscles lying near the spinal column; it thus establishes better walking and sitting positions for the trunk.

To do the scissors exercise lie on the side and stretch the under arm straight up. Rest the head on it, keeping the neck relaxed. Kick straight legs back and forth. This is different from the swimming scissors' kick, for the top leg swings all the way forward as the underneath leg goes all the way back. The body is relaxed. When the movement is done rapidly, keeping the balance on the side will be easy. It should be done on both sides from fifty to a hundred times.

As can readily be seen, it is never wise to hurl commands at only one posture fault. The figure must be considered in its entirety and each part stretched or strengthened so that it can cooperate with all the other parts and thus create a smoothly moving body and restore and maintain a slim, supple, wholly satisfying figure that will be free from petty nagging aches, which poor mechanical use of it inevitably brings.

SAFETY SONNETS

—National Safety Council

Answers to "What's Your Score?"

(See questions, page 269)

1. True. *See page 244.*
2. True. *See page 200.*
3. True *See page 207.*
4. False. Dr. Gorrie was known for his work with an ice-making machine. *See page 216.*
5. False. Each person's body has its own figure flaws which are unique with him; therefore an exercise that has great benefit for one person may have no use for another. *See page 212.*
6. True. *See page 222.*
7. True. *See page 225.*
8. False. It may be traced back to Aristotle. *See page 228.*
9. True. *See page 236.*
10. False. One sixth of a quart of ice crease has 200 calories. *See page 255.*
11. True. *See page 262.*
12. True. *See page 247.*
13. False. Watercress is the exception: It contains a greater percentage of iron than spinach. *See page 270.*
14. True. *See page 281.*
15. True. *See page 285.*

BOOKS ON HEALTH

[NOTE.—Books reviewed or mentioned in this section, other than those published by the American Medical Association, should be ordered from booksellers or direct from the publishers. They may not be ordered through HYGEIA or the American Medical Association. Publishers' addresses will be found at the end of the section.]

The Athletic Plant

By Emil Lamar. Cloth. Price, $3. Pp. 302. Illustrated. New York: McGraw-Hill Book Company, 1938.

IN considering this book one might well revert to that title of years ago, "Compendium of Useful Knowledge." In this case the knowledge has to do with the planning, construction and care of about every kind of athletic field or equipment which a school, college or camp is likely to use. Even such things as night lighting of playing fields are considered. They are considered in such detail, as to make it more than a compendium.

In discussing such equipment as basketball goals and bleacher units the author furnishes complete lists of all parts required and accurate drawings from which a moderately skilful workman could do the construction. So complete is the information and so clear the descriptions that many items of equipment could be built in the school shop if such there were, and, indeed, this is one of the specific objects of the book, to suggest cooperation between the manual arts department and the physical education department to the benefit of both.

The material is well organized, the writing well and clearly done, and the range of sports dealt with is wide. It is an extremely practical work and would enable almost any institution fostering sports to save many times the cost of the book in equipment expense. No such institution should be without it. DUDLEY B. REED, M.D.

The Hospital Head Nurse

By Mary Marvin Wayland, A.M., R.N. Edited by Isabel M. Stewart, A.M., R.N. Cloth. Price, $3.50. Pp. 388. New York: The Macmillan Company, 1938.

THE author of this book is well qualified in theory and practice to speak authoritatively about the functions and preparation of a head nurse. The book is in four parts with an extensive bibliography and appendixes.

The material is presented with clarity, brevity and a penetrating insight into hospital construction, organization and administration. It affirms the age of specialization in the field of nursing with full awareness of modern tendencies.

Attention is focused on the important role played by the head nurse in the educational program of training students and graduates. Her position is elevated to one of dignity and prestige. The book has great practical value. It will serve as a reminder to the trained head nurse and as a great aid to the beginner. It is an excellent reference book.

VERONICA MILLER

Physical and Health Education

By Helen Norman Smith and Helen Leslie Coops. Price, $2.25. Pp. 323. New York: American Book Company, 1938.

HERE is a new book in health education which attempts to coordinate instruction in what has previously been two fields of study: namely, physical education and health education. It deals largely with general principles but refers particularly to the work of the classroom teacher. The book is written in clear, vigorous English and is fundamentally sound in its point of view.

There is one serious omission: Practically no reference is made to mental hygiene. About a third of a page devoted to the mental and social traits of the teacher is a list of dogmatic statements, such as, "The teacher should be interested in the work of teaching and happily adjusted to his profession." The only other direct reference to mental health is in the list of textbooks and reference books at the end of the book. There is a reference to only three books. Chapter IX on sources of material and reference readings should be helpful. With the limitations mentioned the authors have done a most commendable piece of work and have added another worthwhile volume to the growing literature on health education. J. MACE ANDRESS.

"MY DEAR, SHE'S IMPOSSIBLE TO LIVE WITH SINCE THE SURGEON'S JOURNAL PUBLISHED AN ACCOUNT OF HER OPERATION!"

The Adolescent

By Ada Hart Arlitt, Ph.D. Cloth. Price, $2. Pp. 242. New York: McGraw-Hill Book Company, 1938.

THIS is indeed an excellent book for parents of children between the ages of 12 and 21, since understanding the adolescent is not always easy and is frequently trying to some parents. Character training, the meaning of mental growth, the emotional growth and control and discipline during the adolescent period are all discussed. The book takes into consideration that adolescents are still in the growing period and cannot be expected to be emotionally mature. An interesting observation made by the author is that the adolescents themselves choose health as a desirable trait in their companions as well as in themselves. The book stresses the value of the physical check-up by the physician and also points out the value of outside interests in the school and college.

The parent of the exceptional child who is advanced in school beyond his grade receives excellent advice in the special problems encountered in these instances. The book points out that such a child is different not only in chronologic age but also in physical development and social age. This is too frequently forgotten by the parent.

The author shows that training is a continuous process and not one that need only be given once, with the expectation that the child will retain all that he has learned. A set of standards to last for life cannot be made for the child. The best guidance, according to the author, is a good example. This does not come from the parents alone but comes also from books, pictures and friends; therefore the parent should be careful of all persons and articles that are brought into the home.

The parent who has the welfare of the child at heart will hail this book with delight and will welcome its sane, sound and sensible advice.

PAUL A. TESCHNER, M.D.

You Can Sleep Well

By Edmund Jacobson, M.D. Pp. 269, with 40 photographic illustrations. New York: McGraw-Hill Book Company, 1938.

OF LATE there has been a veritable deluge of books telling people that life begins at 40, that they should live alone and like it, that old age is what they make it—even how to win friends. Dr. Jacobson himself is an old offender in this respect, having some years ago informed the public that they "must relax." In the present volume he substitutes for the imperative "must" the scarcely less positive "can," writing on a subject of which he apparently possesses hardly more than textbook knowledge. In the main the book is a rehash of the material presented in "You Must Relax," being partly a collection of "bromides" on the vicissitudes of present day existence, partly a correspondence course on how to relax "medically."

Without a scintilla of factual data to support it he advances the thesis that there are two kinds of normal sleep: "There is tense sleep, marked by restlessness, dreams and less feeling of recuperation after awakening; and there is relaxed sleep, relatively free from movements, rigidity and dreams." The well established facts of motility during sleep, normal persons moving twenty-five to forty times a night, he refuses to take "too seriously." If his views of what constitutes good sleep were correct, 99.99 per cent of the people are sleeping poorly. And even if his method of progressive relaxation did cause some subjects to fall asleep, no evidence is presented that they slept well throughout the night.

A book of this kind is likely to confuse the reader as to what he should or can do about the quality of his sleep. The only ones that can conceivably benefit from it are the author and the publishers, for the same horde of hypochondriacs that gobbled up thousands of copies of "You Must Relax" probably stands ready today, money in hand, to purchase "You Can Sleep Well." N. KLEITMAN, M.D.

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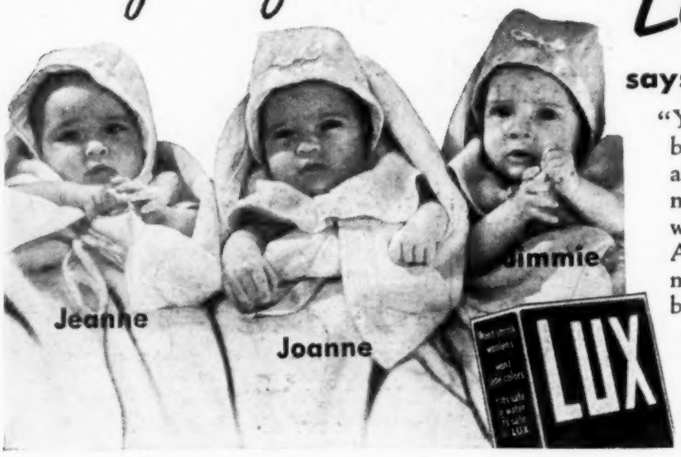

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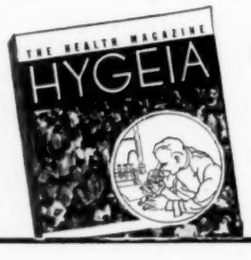

The Conquest of Cholera

By J. S. Chambers, M.D. Cloth. Price, $4.75. Pp. 366. Illustrated. New York: The Macmillan Company, 1938.

HERE is a genuine contribution to the history of disease in America. The author writes with a charming ease and facility, selecting with excellent judgment the outstanding facts and the interesting sidelights of the cholera situation which existed in this country approximately a century ago and up to and beyond the Civil War.

The author is definite and specific as to numbers of cases reported and deaths in various localities and different phases of the outbreak, but he never permits his story to become a mere recital of statistics. Packed with detailed information from cover to cover, the book, nevertheless, reads like a story. W. W. BAUER, M.D.

Teaching Procedures in Health Education

By Howard L. Conrad, Ed.M., and Joseph F. Meister, Ed.M. Cloth. Price, $1.75. Pp. 160. Philadelphia: W. B. Saunders Company, 1938.

HEALTH education is beginning to receive the attention it properly deserves in our school systems today. In this book the authors present the various procedures for the teachers in health and hygiene so that each one can select that method which may be best adapted for the school in that community.

The references at the close of each unit are well chosen and list sufficient books for the teacher of health. The bibliographies could easily be increased, but this reviewer feels that the author's method of limiting the references is commendable since the teacher will be more likely to use several of a short list than attempt to take the best of a long list. J. M. A.

PUBLISHERS' ADDRESSES

The following list contains the addresses of publishers whose books are reviewed in this issue:

McGraw-Hill Book Company, 330 W. 42nd St., New York City.
The Macmillan Company, 60 Fifth Ave., New York City.
American Book Company, 88 Lexington Ave., New York City.
W. B. Saunders Company, West Washington Square, Philadelphia.

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AMERICAN SPAS (Continued from page 209)

properly diagnosing the nature of the chronic ailment and prescribing an effective treatment. It is evident that any bath or treatment that can be taken indiscriminately is of no value; similarly if the water has value and its use is indiscriminate, it will do harm just as often as it will ever do good.

Fortunately, on the other side of the picture there are also a number of health resorts available in the various parts of our country that compare favorably with the best of the continental spas. In Hot Springs, Ark., for instance a branch of the U. S. Department of the Interior, the National Park Service, effectively supervises the operation of all bath houses, cooperates with the medical profession to insure high class medical service and provides free baths to a large number of indigents from all parts of the country; it properly restricts admission for only such diseases as may be reasonably benefited by the baths. New York State has erected and supports a magnificent treatment and research center at Saratoga Springs, headed by an outstanding medical executive. Among larger privately owned resorts, Hot Springs, Va., White Sulphur Springs, W. Va., and Arrowhead Springs, Calif., provide excellent medical departments; while among the many fine smaller resorts, Glen Springs and Clifton Springs in New York have established a commendable system of exact medical supervision and the coordinated use of all treatment measures. In some resort places, physicians have formed a cooperating group for regulation and supervision of treatments. Finally, just recently the American Medical Association has decided to appoint a Committee on Spas and Health Resorts with the object of elevating and standardizing spa treatment throughout the United States for the best interest of the public. There are many problems, medical, economical and legislative, to be solved before the American spa system as a whole can come up, for instance, to the high standards of our hospital system, which insures skilled and dependable care to rich and poor alike. It is most desirable that our health resorts be strengthened and further developed as a part of our health system and that some of the large sums of money heretofore expended in Europe be conserved for home use. Fortunately the signs of improvement all along this line are unmistakable.

"CARE OF THE CHRONICALLY ILL"

"Care of the Chronically Ill," a speech by Ernst P. Boas, M.D., is now available in reprint form. It may be obtained from the Committee on Chronic Illness of the Welfare Council, 44 East 23rd Street, New York City, for a two cent stamp. This speech embodies the information secured through a survey of existing facilities for care of patients with chronic diseases, and it indicates what needs to be done for them. It was given before the Academy of Medicine in New York City.

QUESTIONS AND *Answers*

Pregnancy at Sixty

To the Editor:—Is it possible for a woman 60 years of age to have a child? G. W. W., New York.

Answer.—No. It is rare that a woman past 45 has a child. A woman who stops menstruating in the early forties might become pregnant after missing a few periods, but even this is an exceptional occurrence. Most women who continue menstruation until after 50 have fibroids or some other pathologic condition, and few pregnancies have been claimed in women who were believed to be over 50. Examination of a woman of 60 who thinks herself pregnant will show that the symptoms are caused by some other condition.

Effect of Calcium on Teeth

To the Editor:—As an experiment on calcium in the human body and teeth, I have for the past five months restricted my diet to this:

	Calories	Calcium, Gm.
Bran	53	0.00
Milk	420	0.71
Cheese	500	1.05
Eggs	280	0.07
Greens, boiled, mixed (Swiss chard)	200	1.21
37 oz. (mustard greens) (water cress)	...	....
Bread	500	0.00
	1953	3.04

I have at the end of five months found no noticeable change in my health or in the appearance and health of my teeth. I am beginning to wonder what advantages lie in such a diet. There is the excess of 2.37 Gm. calcium over the required .67 Gm. Can you give me some light on the following questions? Is this excess of 2.37 Gm. calcium a total loss, a waste in my body? Has the human body the capacity to store away calcium for a time? If so, approximately for what length of time? Is there as high a calcium content in mustard greens as in Swiss chard? T. T., California.

Answer.—The absorption of calcium depends on many factors, one of which is the amount of roughage ingested. The greater the amount of roughage, the poorer the absorption of calcium. The amount of roughage of the diet under discussion is relatively tremendous. It would not be surprising to find the utilization of calcium very poor. Also, greens contain oxalates which precipitate calcium in the intestines, decreasing the absorption still further. Swiss chard has a relatively high content of oxalic acid; mustard greens have very little. Though these two foods contain approximately the same amount of calcium, the calcium of Swiss chard would not be utilized, whereas that of mustard greens ingested alone is much more available. Because of these various factors, no doubt much of the calcium not being utilized is "wasted." Less waste should be encountered with a more usual type of diet.

It is suggested that a more varied diet containing some raw fruits and vegetables as well as a variety of cooked ones be substituted for the present restricted diet. The vegetables need not be specially chosen for roughage. With such a change in diet, better general health may result.

The health of the teeth is not readily determined by the person himself. Cavities, once formed, remain; under good conditions of diet and health they will not get larger; the exposed dentine becomes hard, and new cavities will not form. The appearance of new cavities in about the same number and size or a progression of pyorrhea would indicate that there has not been any improvement in the dental condition.

The only storage site for calcium is the bones. With good intake and utilization of calcium the bones become well mineralized. They remain in a good state of mineralization as long as the diet and health are good. During periods of dietary deficiency in calcium, calcium is withdrawn from bones for body use. The question arises as to whether a good calcification of bone should be considered as storage; to many it seems better to consider full mineralization as normal. A common observation in elderly people is deficient calcification of bone because of low calcium ingestion.

WHAT ADVANTAGES FOR THE TEETH ARE THERE IN A DIET HIGH IN CALCIUM?

Black Box

Comparison of Sense of Smell and Sense of Taste

To the Editor:—Will you give me verification of the following statements: "The nose is 24,000 times as highly developed as the tongue! Our taste sense is much cruder and less sensitive than our sense of smell. Vastly greater amounts of a substance are required to produce the taste reaction. This relationship between the senses can be tested by using substances which produce taste and smell. Alcohol is such a substance. If we take the amount of alcohol that can be detected by smell as unity, 24,000 times that amount will be required to produce the taste reaction." If this is true, can it be said that the same thing would apply to all substances? Are there any known reasons for this lack of development in the taste sense? I believe some individuals have a more highly developed sense of smell than others. Does it necessarily follow that their sense of taste would be better developed than that of the average person?

J. H., California.

Answer.—Because the organs of taste and smell are located near each other anatomically and because they may at times be stimulated by the same substance, we are constantly tempted to compare these two sensations. It must be remembered, however, that these two sensations and sense organs are entirely different from each other. One sense organ detects small particles in the air, the other perceives material in solution. Alcohol is volatile and may be smelled. It is also soluble in water and may be tasted. A dilution far below the limits of taste may volatilize enough to be smelled. Granted that this is true, it by no means justifies the generalization that the nose is more highly developed than the tongue. Quinine which cannot be smelled at all may be tasted in a dilution of one-two-millionth. This is a more striking example for the tongue than alcohol for the nose. Whether a substance can be tasted or smelled may depend entirely on its physical properties. It is then impossible to compare taste and smell, at least so far as saying one is better developed than the other.

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Injury to Eyes from Reading Red Print

To the Editor:—Is the reading of red type injurious to the eyes?

A. M., Colorado.

Answer.—No type injury to the eyes could be due to the fact that the print was red in color. In order to read colored type with comfort, it is necessary to have greater illumination on the type. For certain eyes which are slightly farsighted and uncorrected by glasses, the effort to read red colored type is greater than for normal or nearsighted eyes.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

THE PESTIFEROUS PINWORM (Continued from page 237)

that pinworm infestation is responsible in some children for alterations in the emotional framework and probably for a decline of some degree in mental performance.

The diagnosis of pinworm infestation rests on the detection of migrating worms, the finding of worms in stools or in enema returns, or the use of an anal swab for snaring eggs deposited by migrating female worms. Since pinworm eggs are found only exceptionally in the stools, a microscopic examination of stool samples for eggs is not a reliable method of diagnosis, as it is in the case of most intestinal parasites. An effective swab, recently devised for the diagnosis of pinworm infestation, consists of an inch-square piece of Cellophane wrapped around the tip of a glass rod and held in place by a rubber band. The glass rod is passed through a cork tightly fitted into a test tube, thus holding the rod in place and obviating danger of infection in handling. When the Cellophane-tipped rod is gently stroked over the area adjacent to the anus, pinworm eggs adhere to the Cellophane and can be detected when the Cellophane is transferred to a glass slide and examined microscopically. This type of swab has proved to be of great practical value.

Pinworms are one of the most difficult of animal parasites to control. Any method of control must be carried out on a household basis. All members of the family should submit to adequate diagnostic tests, and all infested individuals should be treated at the same time. The failure of even one infested person in the family to take treatment provides a loophole for reinfestation of other susceptible individuals, and this usually occurs.

Physicians have always found pinworm infestation a difficult condition to treat successfully. Until recently, few of the treatments employed have been satisfactory. New researches, however, have led to the development of new and improved methods of therapy which give great promise of successful application. These treatments are based on repeated doses of drugs which can be given with safety over a period of time. A prolonged period of treatment is a factor which aids in control, since it permits the destruction by drying of pinworm eggs in the patient's own environment.

The rigorous application of hygienic measures during the period of treatment will aid in control, though it is doubtful whether hygienic measures when used alone will effect control in the average household. All bed linen, nightwear, underwear, towels and wash cloths used by the patient should be boiled daily. If possible, separate bathroom facilities should be provided for infested persons. The hands should be washed thoroughly after the use of the toilet and before meals. The daily use of the vacuum cleaner on rugs, floors and upholstered furniture will aid in removing pinworm eggs from circulation. Special efforts should be made daily to clean and disinfect bath tubs and wash bowls so that pinworm eggs will not be harbored in these places and infect others.

Many persons have been sufferers from pinworms for years. While undoubtedly these pests are difficult to eradicate, the proper handling of the situation through the use of suitable diagnostic tests, concerted treatment and rigid hygienic measures will in most cases be followed by success.

Leadership in Public Health Work (Continued from page 234)

Justice is such a fundamental virtue that it may seem trite to mention it. Where indeed is the person who wilfully violates this principle; but on the other hand, injustice tends to creep in in unobtrusive guises. Favoritism and partiality in any form to any member of the force is injustice to others. Failure to give due credit for meritorious service is another form of injustice. Snap judgment without carefully weighing all sides of any controversy is injustice in one of its worst forms. "Riding" or vindictiveness of any type or degree and failure to back subordinates are particularly galling types of injustice, begetting deserved resentment which will not only nullify leadership but seriously endanger one's professional existence in public health service.

Energy, enthusiasm, earnestness and *perseverance,* backed by an abiding faith in the worthwhileness of effort, account in a large way for that inspiration, or the will to do, that some rare leaders are able to pass on to others. A leader cannot, however, inspire his followers merely by talking about these qualities. Inspiration is the product of example rather than of precept.

Honor is the quality of adherence to a high standard of justice, integrity and trustworthiness. One does not have to transgress any statutory laws to violate honor. A casual commitment should be as binding as a formal oath. Any task entrusted to one should be accepted as a sacred duty to be carried out faithfully and dependably to the utmost of one's ability. To assume credit for work done by another or to neglect to mention assistance received in accomplishing a certain result is lying by implication and hence a blot on one's honor. Of all the thieves in the world the basest and most depraved is he who would pick another's brains. One should strive with all his might to maintain that "chastity of honor which feels a stain like a wound."

One of the most important things for the health worker to bear in mind is that in most instances the moral standards of the community in which he is employed may be radically different from his own. Rural communities especially tend to adhere to puritanical ideas. Are health employees of such a community to submerge all their own views and customs in the effort to achieve community leadership, or are they to show their contempt for what they consider antiquated old fogy ideas by deliberately flouting them in their own conduct? One in public health cannot be too careful about strict conformity to the conventional moral code, as even a hint of deviation therefrom is rapidly multiplied and distorted by gossip, that cancer of community life. Therefore, we must not only avoid evil but even the appearance of evil. But what of that border zone of conduct in which certain customs and practices, quite harmless in our own eyes, are in conflict with the prevailing community standards? A situation of this kind may be anticipated as the rule rather than the exception and calls for exceedingly adroit management in order to escape hypocrisy on the one hand and a foolhardiness on the other. There is immense social philosophy in the injunction, "If eating meat offends thy brother, eat no meat." In public life where one is attempting to achieve public leadership one cannot always live wholly as a private citizen. It is only when we get behind the closed doors of our own homes in the company of trusted friends that we can be released from the constraint of public sentiment. On the other hand, playing to the galleries by a semblance of embracing certain habits and beliefs foreign to one's own is but cheap and contemptible hypocrisy.

Honesty and *truthfulness* are the handmaidens of honor. In its larger implication, honesty is something vastly more than financial integrity. It is a sense of fairness and straightforwardness which pervades all conduct and speech. Dishonesty is manifested in a myriad of insidious ways which have become so common that the average person practices it unconsciously. Even silence on occasions may be a breach of fairness and honesty.

Further pursuit of this phase of the subject would lead us too far afield. The discussion of honesty, however, cannot be dismissed without consideration of its more restricted sense; namely, its application to financial dealings. Nothing can ruin one's career more quickly than financial irregularities. By this I do not mean deliberate swindling. When a health worker goes into a new community, he is promptly sought out by tradespeople who are eager to secure new customers. In many instances, a proffer of credit is generously extended. Easy credit has been the downfall of many a well meaning health worker. Unless care and judgment are exercised, any one who has a weakness for spending will soon be involved in debt beyond his resources to pay. Certainly the pay-as-you-go policy is safest; but under no circumstances should one contract obligations beyond one's reasonable capacity for paying, after having made due allowance for unforeseen emergencies as a factor of safety.

Truthfulness is, strictly speaking, one form of honesty and is one of the most important stones in the arch of character. One must not only avoid evading, concealing or shading the truth but also take particular care to make sure that what one repeats is the unbiased, undistorted full truth rather than half truth. Anything short of the foregoing is actually untruth. Romancing, "four-flushing," and "putting up a front" are familiar forms of untruth and are the indexes of the immature mind. Truthfulness often involves pain to an innocent party, and therefore untruth is often resorted to in order to spare an individual's feelings. Although this is but stupidly postponing the inevitable and perhaps increasing the ultimate anguish, there is no excuse for disagreeable bluntness in imparting unpleasant truth. Such a task if tactfully and kindly done will bring appreciation and confidence where a well intended deception will ordinarily produce the reverse.

(To be concluded)

ICY SIDEWALKS

Because he is tense and rigid, the person who tries the hardest not to fall on icy sidewalks and streets increases his chances of doing just that, the Iowa State Department of Health warns, cautioning pedestrians to loosen up and relax when footing is slippery.

Health department statistics show that the first three months of the year are especially dangerous for elderly persons taking falls.

What Is Your Community Doing for Its Children?

(Continued from page 240)

feet are the best risks, while the greatest menace to community welfare is the person with so much to conceal that application for aid would be disastrous. This has been notably true in certain cases of venereal infection.

In a planned program there must be diagnosis, executive arrangements and the administration of therapy. This does not necessarily mean division of personnel in practice. The physician can diagnose diseased tonsils and also perform the operation. The psychologist or psychiatrist can diagnose an emotional impasse and also carry on psychotherapy. The social worker can uncover a serious family situation as well as undertake the necessary administrative and follow-up work. The executive consideration enters because of the legal status inherent in every case.

A good way to begin such a welfare program is with a survey, either by specialists or by a group of interested citizens, of the facilities for child welfare which already exist in the community. In this connection, the question must be considered, "To what degree are these facilities functioning to establish contact with all children?"

A tabulation of community resources which such a survey would bring to light might be surprising in its length or alarming in its brevity. Certainly it should consider these items:

1. Mechanical facilities, school buildings, parks, recreation centers, libraries and the like.
2. Physicians, specialists, dentists, educators, psychiatrists, psychologists, dietitians and nurses.
3. Service clubs, men's and women's organizations.
4. Definitely social agencies, churches, children's aid societies, and boys' and girls' clubs.
5. The courts.

The groups taking part in the program, as well as the particular form of organization, depend in large part on available resources. First of all, of course, the public school is important, if only because it exists everywhere and is the sole public agency in contact with all the children of the community. Boys' clubs and the other agencies do splendid work, but they are in a false position at the very start simply because they are on a voluntary basis. Their fundamental weakness is that they have characteristically "contacted" the very children least in need of their services. The census taker and the tax assessor have never operated on this basis. Conditions do not cease to exist because we ignore them, nor can we hope that they will come forward of their own accord. Some agency such as the public school, which has contact with every child in the community, must be an integral part of the plan.

The school can wield a powerful influence toward adjustment. Simple teaching of subjects is not its sole responsibility. School maladjustment is often important in a complete picture of a child's conduct and also may be used in predicting other behavior difficulties. It is not enough to be certain that each child is sitting at his desk from Monday to Friday afternoon. Teachers must show more interest in and make greater preparation for meeting child problems. Parents need to cooperate with them not simply in parent-teacher meetings but also in helping to untie specific knots with respect to a specific Johnny or Jimmy or Doris. If it can be managed the school staff should include visiting teachers and specialists in supervising adjustment problems.

Physicians, psychiatrists, nurses, dentists, dietitians and educators should enter into the program to as great an extent as the community can afford. As far as possible the efforts of the experts should be in the direction of prevention. They are uniquely prepared for early diagnosis of defects if they see the case in time. To provide them with an early opportunity to assist is the community's responsibility.

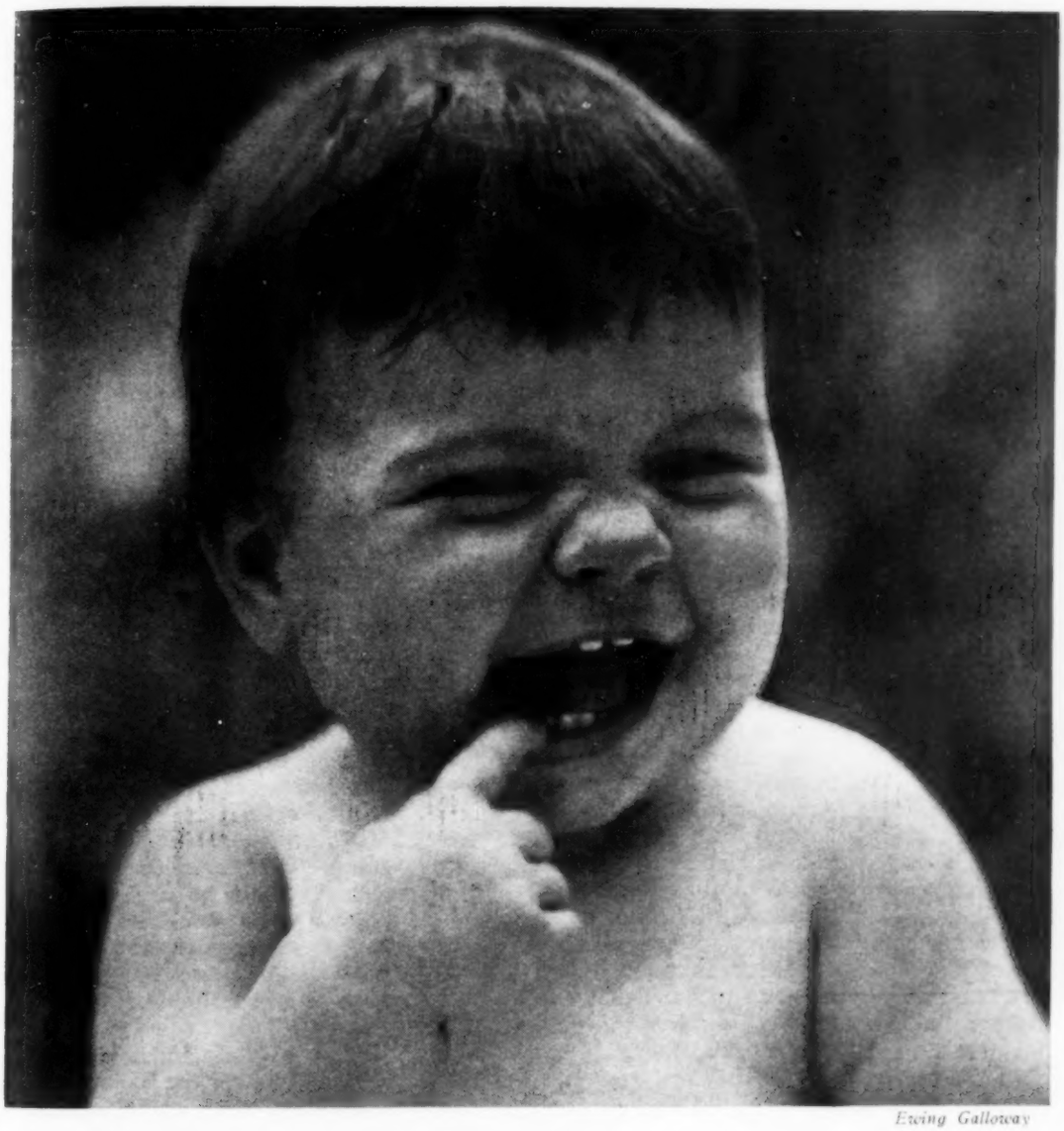
Does the community need recreation centers, swimming pools or summer camps? Service clubs may well sponsor these facilities. While club sponsorship of individual cases does not permit the necessary personal relationship, individuals within the clubs may assume such responsibilities and may even serve as parolees. Such lay work can be extremely effective. The average professional worker usually carries too heavy a case load to give each individual as much attention as he needs. The exclusive and personal interest of a service club member may be just the little extra assistance necessary to bring cold organization to life.

A charming and intelligent boy was saved at the critical moment by a dentist. The boy's mother, deserted by his father, was working in the dentist's office. When this boy was interviewed his whole conversation and all his plans revolved around dentists and dentistry. One wonders whether the dentist realized the place he had assumed, consciously or unconsciously, in the boy's life and the responsibility he had incurred as well. For we live, most of all, by the things we love and not by habit or reason.

The strength of the Big Brother movement is the use of this means of rehabilitation. Requisites of this service are absolute sincerity, unselfishness and patience. A hard-boiled street waif will detect insincerity a mile off. One must be unselfish, particularly when the child no longer needs help. Every sponsor will find himself, sooner or later, repeating the painful scene every parent must face when his child grows up and breaks away. Patience is needed, for it takes time to replace a whole life of suspicion with some confidence and trust.

Legal cooperation there must be, for every case of dependency, delinquency, mental retardation or psychopathic tendency has its legal aspect. Only the court or its representative has the power to go far beyond mere recommendation and persuasion. Questions of guardianship, supervision and custody for the good of both society and individual are essentially legal. The practical burden of administration must fall on ongoing organizations in the community, the church, boys' and girls' clubs, the Y.M.C.A. and Y.W.C.A., children's aid societies and the social service.

Community child accounting belongs in American public planning. It puts the responsibility for the upbringing of children where it belongs psychologically, with the group as a whole. And it helps the child solve his problems before he becomes legally a state or national charge.



WHY IS DENTAL CARE SO IMPORTANT IN THE YEARS FROM 2 TO 5?

Ewing Galloway

FOUNDATION TEETH

By JOSEPH H. KAUFFMANN

NO THOUGHT is ever lost and no effort ever wasted whose aim is to make children healthier and happier. Every child is entitled to good health, and nothing should be left undone to bring it to him.

Outstanding among those activities which constantly require attention in behalf of child welfare is the observance of mouth hygiene and dental care. Especially is this so in the case of the child from 2 to 5 years of age. But why is dental care so important in the years from 2 to 5?

That the mouth is the gateway to the body has long been known; that the teeth are highly important as useful members of the body is becoming a part of common knowledge. What we have yet to appreciate and understand is that, just as adult development is to an extent a product of childhood, so is the dental health of maturity dependent on the foundation which is laid in preserving and protecting each tooth in the first set of twenty to which every child is heir. The modernly educated dentist knows that the public wants more and more protection against the ravages of dental disorders which are more common than any other maladies known to mankind. People no longer neglect the preservation of their teeth; on the contrary the layman wants to avoid losing any of his teeth. But there is no simple panacea to bring about this desired maintenance of a healthy mouth and a sound set of teeth. That is something which can be attained only by constant personal interest throughout one's lifetime.

The precautions necessary to maintain a healthy mouth in a healthy body actually commence before birth; that is, each mother-to-be should practice for her future child's protection those hygienic measures which will tend to bring a healthy newcomer into the world. These prenatal hygienic measures as observed by the expectant

mother are carried on through the combined advice of the family dentist and the family physician.

It is interesting to note what a good mother will do for her infant. Every mother takes infinite pains to keep her little one's mouth sweet and clean during the period in which the babe is carried in her arms; but strange to say, there is a diminishing concern in this protective mouth care, once the little one is able to toddle about by himself. Most unfortunately, there is a wide gap of indifference stretching from the second to the fifth year of life. During these years, known as the preschool period, little, if anything, is done for the child's first set of teeth, and their importance is sadly underestimated. The mother does not realize that these are foundation teeth, teeth which are vitally important to the present and the future welfare of her child.

In the first place, every part of the human body is created for a definite purpose. The smallest tooth in the tiniest mouth has its reason for being there. It carries on, in its own way, its own share of the mastication of food, its own share of the function of speech, its own share of the smile which every mother loves to see and its own share of the stimulation needed for the proper growth and development of the gums, jaws, face and head. If the first twenty foundation teeth did not do these things, why would they exist?

Many parents who do know better have completely disregarded the presence of the foundation teeth and actually let them go to rot. Harsh and unfortunate though it may seem, the little one suffers for his parents' lack of interest and correct information—not because any mother wants her child to suffer but because the usefulness of those foundation teeth is thought to be little or practically nothing at all in view of the fact that they are present only during early childhood. Actually, some of the foundation teeth have a service to perform until the child is 11 or 12 years of age.

Every one of the child's twenty foundation teeth is in the mouth by the time the child is 2½ or 3 years old at the latest. When completely erupted in the upper and lower jaws they have plenty of work to do. One should realize that while these foundation teeth are growing and gradually coming through the gums, the child is also becoming bigger and more fully developed in every way. This development requires good nutrition, and good nutrition means wholesome foods. But nourishing foods are of little value if they are not thoroughly digested; and thorough digestion commences in the human mouth with proper chewing by sound and clean teeth. Now, surely, no child can grow well and normally if there is even one weak link in the nutritional chain. Even one tooth, through its diseased condition or loss can act as a weakening link and drag down the maximum value of the entire chain. Needless to say, if two, three or four foundation teeth should be badly decayed or lost prematurely through neglect, the situation may become quite serious and complicated.

The loss of any tooth of the first set before the proper time for its normal shedding means more than impaired mastication. As the little child grows into school age the bones of the face and head should develop accordingly. The jaws must grow larger in order to provide enough room for the oncoming larger and more numerous teeth of the second set. But if the foundation teeth are not retained in sound condition as they should be, the needed stimulus to the development of the jaws is weakened. Consequently proper growth of the jaws and face is arrested, and the succeeding teeth of the second set may come in crooked. Under such conditions the child enters school dentally crippled and starts off at a distinct disadvantage. A large percentage of school children suffer from malocclusion, or crooked teeth, an unfortunate condition which is often carried with them throughout life. Such distressing abnormalities are largely avoidable and may be prevented through cooperation of parent and family dentist. Much of the necessary service performed by the orthodontist, a dentist devoting his attention to the correction of crooked teeth, could be avoided by proper supervision of the child's foundation teeth during the first five years of life.

Dental caries, commonly called dental decay, means rotted tooth structure which breaks down and forms a hole or cavity. Every hole in a tooth, whether decayed or not, is a small one when it commences, and it is then that the child should be seen by the family dentist. Not every small break in an otherwise good tooth is necessarily the result of decay. Sometimes it is impossible to prevent the formation of a small hole because the enamel is not built perfectly when first laid down by nature; and a little opening or crevice, known as a pit or fissure, may result. However, it is almost always definitely possible to prevent that small enamel defect from acting as a starting place for decay. These pits and fissures in the foundation teeth can be so treated by the family dentist as to enable the child to retain every such affected tooth in good health. This preventive treatment can be carried out by the dentist regularly. Periodic visits should be made at least once every six months commencing at about the age of 2. If every child is given this early preschool attention regularly and faithfully, he will be educated to a health habit which will in all probability be carried on throughout life. Most toothaches in children from 2 to 5 years of age can be prevented. There is not a single good reason why the average youngster of these years should have a large cavity of decay in any tooth if proper home care and periodic supervision by the family dentist are carried out.

Home care includes the care which must be given to the child's foundation teeth each day and night under the direction, especially at the beginning, of an interested adult. As the child approaches the age of 5, he becomes more self dependent and can unaided carry out the hygienic measures involving morning and evening use of toothbrush, dentifrice and mouthwash.

By the time the little one has all the teeth of the first set, a good toothbrush should be available and kept in a clean place where it will not be contaminated with foreign matter. Never under any circumstances should all the family's toothbrushes be thrown together in a common container, as this is a most unsanitary procedure. Care must also be taken that one child does not use another's brush. A parent, guided by competent professional advice, can be most helpful in teaching a child good habits of mouth health. In addition to the

toothbrush and dentifrice, a mouthwash for rinsing may be used. A simple effective flushing solution may be used after each brushing. This hygienic measure is refreshing and stimulating to the gums surrounding the teeth and to all the other soft tissues of the mouth. Every child should be taught to brush his teeth and rinse his mouth each morning and each night before going to bed.

In safeguarding child health, the foods which young children are given have much to do with their physical welfare and the building of sound teeth. During the preschool years, when the foundation teeth are all present in the mouth, their successors of the second set are being formed. The nutrient foodstuffs given the child all tend to fortify the youngster against disease and deformity. A good diet helps build other parts, as the bony structure of the developing jaws which are growing larger as the child approaches the sixth year of life. At this time the first permanent molars are making their way into place, and it is most important that these first permanent molars should be soundly built and correctly placed.

Plenty of exercise of the teeth, gums and jaws helps to keep the little one's dental apparatus in fine working order. This is done through the thorough chewing of fibrous and resistant foodstuffs. Mushy and overcooked foods never provide the exercise needed for healthy mouths. Teeth are made to do useful work, and the more they are used, the better work they do.

QUESTIONS FROM MOTHERS

Short Socks in Winter

To the Editor:—What are the dangers to health from wearing short socks in the winter? School physicians advise parents to put long stockings on children when rainy, foggy and cold days come. There seems to be a fad among children, and parents as well, that supersedes all health considerations.

P. K. I., California.

Answer.—There is no danger to health from wearing short socks in winter if the body and feet do not become chilled. Leggings may be worn outdoors. The advice to put long stockings on children when there is rain, fog or cold is obviously good sense.

There used to be a theory that exposure "hardens" the child against colds and coughs. This theory may be carried out for the child who is husky and reacts well, but it is undesirable for the child who is anemic and thin and who gets blue, shivery and miserable.

Left Handedness

To the Editor:—My little girl has been using her left hand since birth for eating and coloring. She is now 6 years old. Wouldn't this be the proper time to start teaching her to use her right hand?

E. D., North Dakota.

Answer.—A child who is normally left-handed can only with difficulty be taught to use the right hand and is frequently seriously harmed in the process. A child who is able to use the left hand almost as well as the right should be considered fortunate, and nothing should be done to attempt to influence her to use one hand to the exclusion of the other.

An Eating Problem

To the Editor:—My child 2 years old will not eat well. I have had him to many doctors. What is your solution?

M. R., Pennsylvania.

Answer.—When a child comes to the table and says, "Mother, I don't like this," there is just one thing to do. Assume an air of perfect indifference and tell the child that it is now meal time, that the meal is on the table and that he may take it or leave it, and nobody cares. If you can conceal your suffering and let nature take its course, you will observe in a short time a phenomenal improvement in appetite and a considerable increase in caution about saying, "I don't like . . ."

In other words, the healthy child will not starve. If the problem does not solve itself within a week and if the child shows evidence of illness, a physician should be consulted for a complete physical examination.

In most instances, however, nothing works quite so well as indifference.

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Medical News

OF THE MONTH

Ulcer of the Eye

The highest incidence of ulcers of the surface of the eye among patients with foreign bodies in the eyeball was found in farmers and farm workers by W. T. Wenner, M.D., St. Cloud, Minn., he reports in a recent issue of *Minnesota Medicine*. The lowest incidence was among industrial workers, who are automatically required to report early for treatment.

Dangers of Electrolysis

"An increasing number of electrolytic instruments designed particularly to remove hair, moles and warts are appearing on the market," a recent issue of *The Journal* of the American Medical Association says.

"There is a growing tendency for people, unqualified by experience and training, to undertake the use of such apparatus. The electrolytic instruments may be found in beauty shops and in offices conducted by self-designated electrologists, hair specialists, lay dermatologists, depilatory experts and the like.

"Because of the seeming simplicity of the processes, people are often misled into believing that they are quite safe with these lay operators. Actually there are a number of reasons why such safety is not assured. First, untrained operators are apt to have little knowledge of aseptic technic. The importance of proper sterilization of the patient's skin, the operator's hands and arms and the needle holders and needles, as well as the proper precautions to avoid infections, are largely unknown to or may be disregarded by these technicians. Infection may be mild, such as a small pustule, or may result in abscess formation. Erysipelas has been known to develop around one of the infected regions. If the infection occurs in the nose, glabella or upper lip, it may cause death because of the direct venous communication between these areas and the lateral sinuses. When moles and warts are treated by inexperienced operators there are additional dangers resulting from lack of diagnostic ability. As they are unable to differentiate between benign moles and those which are malignant or may become malignant as the result of an injury during treatment, serious consequences may follow.

"To avoid the hazards of infection and improper diagnosis the operator should have some understanding of anatomy, physiology, bacteriology, antisepsis and tissue tolerance to injury, as well as the chemical reaction involved in electrolysis, and the physics and mechanics of the apparatus used. Pitting and scars may result from the application of too much current or too long a treatment, as well as from improper insertion of the needle into the hair follicle. If the operator makes several stabs at a single follicle or treats too many hairs in any given area, infection and scarring may be expected to ensue."

Operative Obstetrics

Operative obstetrics appear to be most frequent at two periods in the day: around 11 a. m. and between 3 and 5 p. m., according to studies by Dr. J. Yerushalmy, recently cited in the *New York State Journal of Medicine*. The doctor is careful to point out that a correlation does not prove cause and effect. The statistics, however, accord with certain preconceptions which some obstetricians have advanced.

Disability Compensation

Compensation for permanent disability after injury should be made on the basis of a lifetime rather than restricted by time or money limitations, Walter G. Stern, M.D., Cleveland, points out in a recent issue of *The Journal* of the American Medical Association.

Alcoholic Intoxication

Alcoholic intoxication is a predisposing cause of pneumonia, and the death rate from this disease among alcoholic addicts is definitely higher than that of abstainers, *The Journal* of the American Medical Association said recently. Medical literature contains many reports of both clinical and experimental observations which point strongly to the fact that alcoholic intoxication lowers the resistance not only to pneumococcic infections but to other infections as well.

Malignant Tumors

The only absolute cure for malignant tumors of the genito-urinary tract (kidney, bladder, prostate and ureter) is complete removal of these growths in their early stages, Henry G. Bugbee, M.D., New York, says in a recent issue of *The Journal* of the American Medical Association.

Absorbable Metal

A new alloy of magnesium which is completely absorbed by the body when used for fixation of bone fractures in preference to cow horn and beef bone is described by Earl D. McBride, M.D., Oklahoma City, Okla., in a recent issue of *The Journal* of the American Medical Association.

Since the new alloy is absorbed, it does not remain in the body as a foreign substance.

The alloy, containing 95.7 per cent of magnesium, 4 per cent of aluminum and 0.3 per cent of manganese, has proved to be more generally satisfactory for bone screws and pins in fractures.

The metal holds the bone fragments in place long enough for them to unite, yet is gradually but completely absorbed in a much shorter time than other absorbable materials that have been used up to now.

The alloy screws have been used as onlay bone grafts in six cases of fracture. All have held firmly, and absorption of the metal has left the graft thoroughly amalgamated and the fragments firmly united. The stimulation of bony callus was notable in each case.

The rate of absorption depends on the size, shape and quantity of metal used.

Not all physicians, however, are favorably inclined toward use of the new alloy.